

A man with dark hair and glasses, wearing a grey jacket and blue pants, is crouching in a field of tall grass and fallen leaves. Behind him is a black rectangular sign with a white border that reads 'COOPTOWN' in white capital letters. The background shows a line of trees with autumn foliage and a road in the distance.

**COOPTOWN**

**YUP/  
OLD WHAT'S  
HIS NAME  
IS BACK**

**COOP'S  
SATELLITE  
DIGEST**

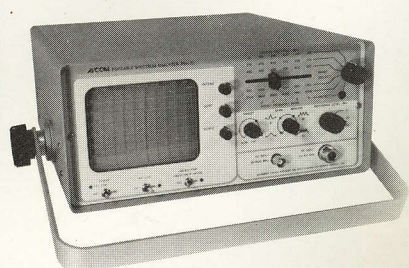


**AUGUST 15, 1986**

**INTERNATIONAL EDITION**



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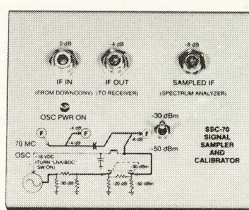
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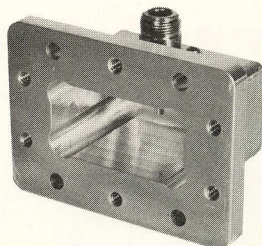


## **TISH-40 TERRESTRIAL INTERFERENCE SURVEY HORN**

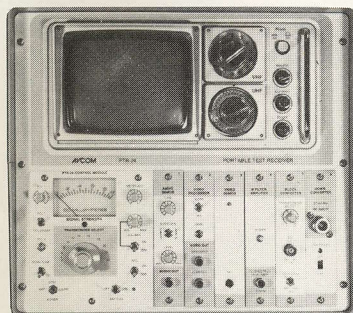
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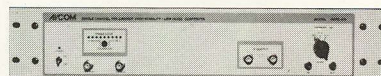


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## TOP OF THE MONTH

**HERE WE GO AGAIN!** After an 11 month sabattical leave from the daily rigors of creating and publishing CSD, 'Coop is Back'. Several readers at HBO and M/A-Com just felt their breakfasts turn over in their stomachs.

**WE HAVE** several significant CSD-look changes underway; our mid-book 'Green Sheets' is but one. Not everything we hoped for, in the first issue, we expect this to grow into a significant marketplace for the sale of pipe-line-clogging equipment in the year ahead. Find out why by reading it over carefully.

**CSD IS LIGHT** on technical and news features this month as we regasp the basics of making everything fit into a 'smaller' edition. In this issue, a look at the TVRO industry in the Pacific basin region, why you may one day own your own cable TV system, and a report from Peter Sutro on an upbeat TVRO show in Europe.

**SCHEDULED** for September, a look at the financial collapse of Western Union, an intriguing point-anywhere-in-the-sky dish at the University of Virginia, the DeSug attempt to crack Videocipher, how the Oak Orion P bootleg chip set works, and a new marketing approach to selling home TVRO systems in a down market.

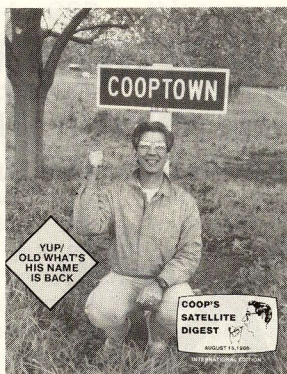
**DROP** by the CSD booth in Nashville (#223) to visit with Carol, Alli Lake, Patti and I!

AUGUST 15, 1986

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**OUR COVER/Coop** discovers 'Cooptown' in a remote corner of 'South Island', New Zealand. CSD begins a multiple-part series investigating the growth of TVRO in the South Pacific with a look at the surprise New Zealand TVRO industry in this issue.

## COOP'S SATELLITE DIGEST



**COOP'S SATELLITE DIGEST** published on the 15th of each month, dated for the current month, by CSD, Limited, a Turks & Caicos corporation with corporate offices located at Tower Plaza, Providenciales, Turks & Caicos Islands, British West Indies. Under contract, an office is maintained in Fort Lauderdale, FL (P.O. Box 100858, Fort Lauderdale, FL 33310; 305/771-0505) for the contracted purpose of processing all subscriptions, advertising orders, receipt of all mail and correspondence. All communications relative to CSD operations should be directed to this office. CSD, Limited also maintains an equipment testing laboratory for satellite receiving systems and components in the Turks & Caicos Islands. CSD routinely reports on the technical performance of equipment, both privately and in print. CSD also participates in the operation of 'test tube' low power radio and television broadcasting stations and a rural area cable TV system as an ongoing research project into the challenge of bringing modern communication services to third-world, undeveloped regions. **CSD subscription rates** are \$60 for 12 issues where U.S. zip codes apply, \$65 in US funds in Canada and Mexico and \$75 in US funds elsewhere. All non-US copies are sent via AIRmail. CSD has been published each month since October of 1979 and publisher Bob Cooper created the home TVRO industry in 1978. Single copies are \$6 in US and \$7 elsewhere. Bob Cooper, Jr. is publisher. CSD is copyrighted by CSD, Limited in the Turks and Caicos Islands and USA. **Second Class postage paid** at Ft. Lauderdale, FL. Application to mail at second class postage rates is pending at Ft. Lauderdale, FL. Direct dial telephone to CSD, Limited is 809/946-4273 but be warned; this is an expensive telephone call!



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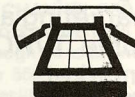
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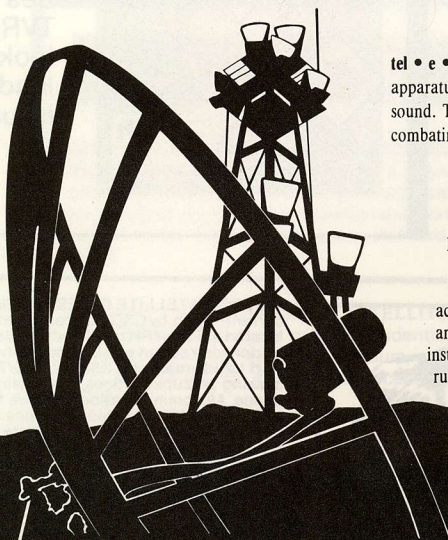
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## COOP'S SATELLITE COMMENT

- COME BACK HOME/ Again
- DESUG/ Will They Bust Videocipher?
- OFFSHORE TRAVELING/ Trivia
- OAK ORION 'P'/ CRACKED, or DEAD?

-Editorial Comment from Bob Cooper-

### STARTING Over

This is the 109th issue of CSD. And we are 'starting over'. I didn't plan it that way.

When I arranged to 'retire' from active publishing duties of CSD last August, it was to allow me the freedom of time to be able to investigate and hopefully create a new non-scrambled programming service for TVRO owners. My arrangement with the people at Triple D was straight forward enough and looking back I have nothing but high praise and admiration for the crew at Triple D for the way they handled CSD as best they could during their 12 issues. What ended up being a 12 issue 'vacation' for Coop was intended to be far more permanent than that, of course.

Several negative things happened. The industry went to heck in a hand basket and when it came time for Triple D to make their second payment to me for CSD 'rights', they had second thoughts. And well they might; I'm sure given the downturn in the industry I would have reached a similar decision if business practices were the only element in the decision.

So here we are 'starting over' again. Our advertising support has dwindled away to a skeleton of its former self (we had more ads in the first issue than we had in the 107th), and the size of CSD has shrunk just as dramatically. To make matters worse, Triple D went on a subscription renewal binge just before giving CSD back to me and a bunch of you signed up for two years at renewal time rather than the standard one year renewals. I can hardly blame you; Triple D offered you significant dollar savings to renew for two years rather than one. **There was a hitch however;** Triple D keeps all of that money and I got none of it. What I get back is a magazine that has lost most of its advertisers, with a not insignificant number of subscribers who will not have the opportunity to renew for two years or so.

There was another choice; I could have allowed CSD to simply 'die'. The best 'idea' Triple D came up with was to 'fold' CSD into some sort of combination with one of their other surviving magazines such as STV/CSD or CSD/Retailer. That didn't seem too keen to me so in a sense I took CSD back because I was not prepared to see it simply disappear into some other publication. No, CSD would not die; not at somebody else's hands anyhow. **I started it** and if it became impossible to continue it, **I would finish it.**

Fortunately for you, that is the furthest thing from my

mind. After a year of being removed from the daily grind of putting CSD together each month, I am chafing at the bit to get back into the fray. It was a good vacation but now I am ready to once again do battle with windmills and charlatans of every description. I've missed being a sharp needle in the industry's side for 12 months.

Naturally we have to survive. CSD still costs money to typeset and print, even if I write everything for free (actually, you will see plenty of help in the writing department here this month). And it still costs big bucks to mail and operate our small office even if Patti and I both work for free. Our own shortage of advertising is symbolic of all publications in this industry of course. **Our problem** is how do **we** attract a higher percentage of the limited advertising dollars remaining than Triple D was attracting on behalf of CSD? I talk about my plan in this area, next, here. There is something **you can do** for me to help; two things actually. First, you can make those advertisers whom you deal with know that you read and support CSD. Mention CSD when you call or talk with a supplier; draw their attention to an article in the current issue for example.

Hey, I would like nothing better than to get CSD back into the 'thick format' again. But that takes advertising to pay the costs. So if you feel you are missing something that the 'old time CSD' used to offer you, you can get us back to the thick side once again by helping us coerce advertisers into our pages. Be selfish; fight for a thicker CSD by working on the suppliers for more advertising.

The second thing you can do is to get behind the subscriptions. With Triple D selling two years for a bargain price on their renewal plan, and then retaining all of those dollars for themselves, I need a slug of new subscribers to help pay the costs until we can hit up those two year renewal folks once again for their subscription bucks. We are trying to make CSD more useful than ever before as you will shortly see but we need a couple of thousand brand new subscribers to make it all work. Consider yourself a missionary task force of 'one' and make it your task to beat the bushes finding us new people to subscribe to CSD. I've made that far easier for you than in the past by adding to the subscription package a free 'Green Sheet' advertisement for each subscription; something that costs \$25 normally. The new subscription form in this issue includes a space where the new subscriber can write out his 'Green Sheet' advertisement at the same time he sends in his sub-



scription. That should help you twist a few arms; just hand them a pen and tell them to fill in the subscription order **and** the Green Sheet listing information simultaneously.

Speaking of which, if you feel a little bit guilty about taking advantage of poor old Coop by sending off a two year renewal to **Triple D** just before Coop got CSD back, you can soften the blow of my having to service your subscription for 'free' for two years by taking out a few Green Sheet listings of your own at the special discount rate that goes to every CSD subscriber. In fact, if you'd take a single Green Sheet listing every issue for say eight months, I'd probably come out about even on your renewing with Triple D for two years rather than through me when the time came around!

Finally, as we explain here some of the advertisers simply have no cash to advertise as they should. So we are offering to accept equipment in trade for advertising in certain situations. For us to come out on this, we will have to get rid of the equipment; quickly. If you are a **dealer** who wants to save some bucks on full warranty equipment, and you can pay cash in exchange for savings, call our Carol Graba and tell her what sort of equipment you are looking for on a regular basis. Carol in turn will keep you on file and call you when we get what you are looking for 'in'. This could help you save some bucks and make us feel better about taking equipment for advertising (we need to get rid of it quickly since our printer and the post office are not yet accepting 10 foot dishes or scan tune receivers for their services!).

We can turn this around. It won't be easy and it won't happen overnight. If I had any doubts about Patti's and my ability to pull this off, I wouldn't have taken CSD 'back' from Triple D. My life certainly would have been far simpler had I just walked away from CSD and spent the next ten years bumming around the world's white sand beaches with Patti. However, neither of us are made that way . . . **so here we go again with issue number 109.**

#### **CAPTAIN Midnight Apprehended**

TVRO 'folk hero' Captain Midnight has been apprehended but he turned himself in before the federal authorities could capture him on their own. He turns out to be a TVRO dealer, who also works part time as an uplink engineer at the Central Florida Teleport in Orlando. His name is **John MacDougall**.

MacDougall turned himself in to federal authorities late in July and was arraigned in federal district court in Jacksonville, Florida. Although he could have been fined as much as \$10,000 and sentenced to a year in jail for his 'daring raid' on HBO's signal on Galaxy 1, MacDougall received a \$5,000 fine and was placed on a one year probation period. He also lost his FCC granted Amateur and commercial radio licenses. MacDougall is 25 years of age.

In television network reports of his 'capture' the network people made it appear as if FCC and FBI sleuthing finally caught MacDougall. Not true; MacDougall decided to turn himself in although the FCC does claim that it was getting close to MacDougall and the Central Florida Teleport when he voluntarily gave himself up.

MacDougall claims, and the FCC agrees that MacDougall was 'alone and in control' of the uplink when



the act was perpetrated. It now appears that MacDougall did a 'dry run' using only color bars to test his ability to 'jump' the HBO signal on April 20th. That 'incident' went largely unreported and HBO chalked it up to a mistake by another uplink operator.

In a news conference fed by CBS to its affiliates the day after MacDougall turned himself in, MacDougall explained how he had been selling TVRO systems for nearly three years in Central Florida. He said he had become extremely frustrated by the scrambling, and was very upset by what the scrambling had done to his retail dish business. Finding himself in a position to 'protest' by sending a 'jamming signal' to the HBO feed on Galaxy, he allowed his frustration to take control of his actions.



**POST EVENT press conference carried by CBS allowed John additional time to explain his actions. This was fed to stations for their local use and was not carried on the regular CBS Evening News.**

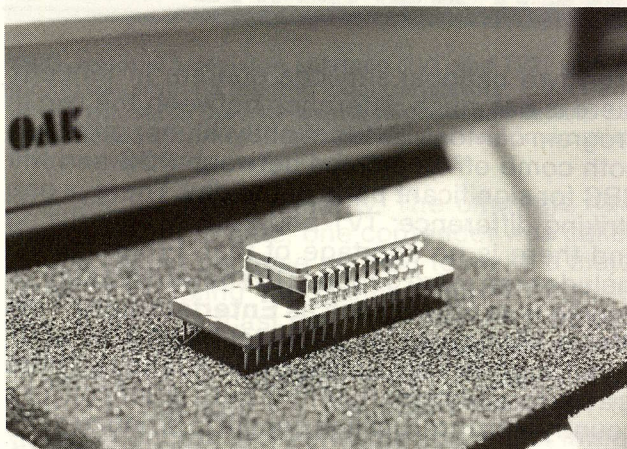
MacDougall, in his press conference, expressed regret for the incident and said he wished it had not happened. He is scheduled for formal sentencing on



August 26th and has decided to remain 'silent' until after the formal sentencing. He has been invited to attend the Nashville industry trade show September 1 to 3.

#### OAK ORION Breached?

A Canadian company, **Westar Technologies**, has claimed that they have perfected a 'chip device' capable of descrambling any and all Oak Orion scrambled services. A limited number of the chips are now 'out' and being tested in Orion 'P' (personal) decoder units. The chip is piggybacked onto a 40 pin carrier and users are advised to remove the appropriate Oak-supplied device inside of the P decoder, replace the device with a 40 pin socket, and then insert the Westar chip unit into the 40 pin socket.



Users of the chip claim that once inserted, it allows the viewer to tune in the video and audio of **any** Oak Orion encrypted transmission. Oak scrambling is in use on both Canada's ANIK bird and many US birds. Canadian use is exclusively for various cable-intended services including the four Detroit area TV signals used to provide US network service to remote areas of Canada. US use of Oak includes a wide variety of users, including the Catholic and Baptist networks, many horse racing coverage channels, and special events.

Price for the chip is approximately \$350 through US outlets although the chip is apparently not available in Canada, where it is manufactured. **Dealer net costs may be significantly lower** although there remains a very real question concerning the legality of the chip device in **either** the US **or** Canada. Canadian law prevents the sale of devices which would decode **Canadian** satellite transmissions and US laws seem just as certain about the sale within the USA of devices intended for use to decode US originated transmissions. If Oak Orion scrambling was **only in use in Canada**, the sale of such devices in the US would possibly scrape by without prosecution. **However**, because the devices can be used to decode US transmissions using Oak, most feel they are just as illegal 'here' as in Canada. There appears to be no law to prevent use of the chips **outside of the US and Canada** provided the devices can be 'delivered' through US or Canadian ports without being grabbed in the process.

CSD is testing one of the chip devices at this time and will report to you here.

#### DESUG'S RICHARDSON

With a report that Oak Orion 'chip sets' are now working and available from a number of sources (thereby allowing Orion 'P' decoder owners to tune in **any** Oak scrambled transmissions at will), the relative importance of the DES User's Group effort to break the Videocipher audio encoding takes on new momentum.

During July, a five part series appeared on the Thursday evening BORESIGHT television program (9 PM eastern, Spacenet 1, TR17) in which DESUG's **Bob Richardson** outlined the objectives and techniques in use by this ad-hoc group of computer scrambling 'ex-



**Richardson (left), Haden McCullough, Cooper and Shaun Kenny talking over the Desug effort prior to shooting five-part TV interviews which appeared during July on BORESIGHT.**

perts'. Much of what Richardson wanted to say was said in the BORESIGHT telecasts. There were some additional 'off-the-record' comments however which we captured with a non-BORESIGHT camera and microphone and they are being carefully edited for publication here in CSD starting in our September issue.

We figure M/A-Com and the industry 'wins' whether the DESUG effort results in a cracked-videocipher or not. **If DESUG is successful** in breaking Videocipher scrambling, there will be widespread dissemination of the 'how to techniques' and for M/A-Com it will be back to the drawing boards. Sooner or later that was inevitable if the Videocipher system is not secure and the sooner M/A-Com is forced to address their systems weaknesses, the sooner we can move ahead with rebuilding our shattered industry.

On the other hand, **if the Videocipher system cannot be cracked** by Desug, we doubt anyone else will do it either (although, indeed, somebody may do it before Desug gets there). A failed Desug effort, using the best technologists available, will tell us that M/A-Com has done their homework properly and the system is not likely to be broken, ever. That also allows us to get out of



## OFF-SHORE REPORT NUMBER ONE:

### THE New Zealand 'Opportunity'

With a population base of just over 3 million people, and a physical isolation which few other countries in the world 'enjoy', New Zealand offers business opportunities to the TVRO industry which are unique in the world. It will surprise some, as it did us, that there is already the start of a TVRO industry there.

New Zealand boasts one of the best standards of living in the world today. As a small businessman owning a 26 unit motel commented to us "Most everyone has two cars in their garage, a 'video' (VCR), a modern and comfortable home and money in the bank. What more could we want from life?"

Taxes in New Zealand are extremely high; they believe them to be the highest in the world. Some might quibble with that statement, but the fact remains that for incomes over \$48,000 (NZ) per year, the tax bite is around two-thirds of dollars earned. Much of this taxation shores up social programs. Medical help, educational expenses and other 'equalizing subsidies' are widely available to all residents. The country spends an extraordinary amount each year on public works such as the roads. Rural area roads are amongst the best in the world giving that a traveler can drive for an hour or more and never encounter a passing vehicle. In areas where agriculture is important (and that includes virtually all of the country), the farmers command special attention.

Television service has followed the same track; with two 'national' channels (TV New Zealand 1 and 2), there is a system of primary transmitters and low power translators which force feed service into any area where there are ten homes or more. In practice, with primary and translator stations spread all over, most locations can receive the two national signals from multiple sets of transmitters so nobody goes 'without' television. This was a considerable engineering feat given the very mountainous terrain of the country.

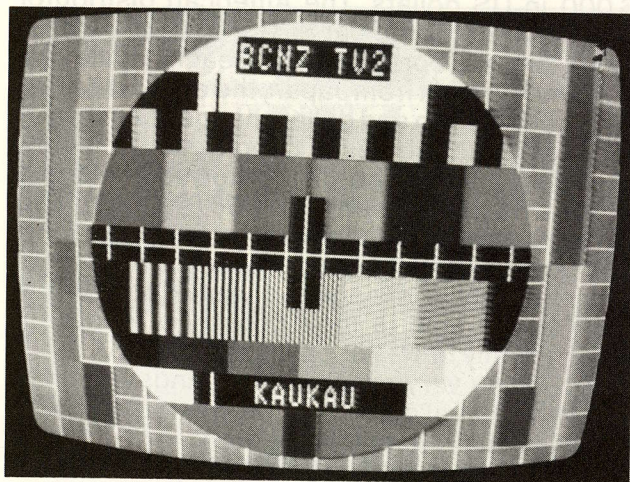


## NEW ZEALAND TVRO

The two national services operate in tandem; there is not much difference between the two in program content. TV1 is slightly 'higher brow' but both come off as a cross between PBS and the BBC for significant parts of the day. There is one striking difference; TV1 and 2 carry advertising and there is no shortage of that. Programming includes the more popular US shows (**Dynasty**, of course plus others such as **Entertainment This Week**, sent down via satellite) as well as additional imports from England and Australia. There is a reasonable 'local content' but it is difficult for a country with three million people to produce highly innovative television of its own on limited budgets. News coverage is adequate but only marginal use is made of ENG (electronic news gathering) equipment and personnel. Field reporters virtually always work 'off camera' and do voice overs of their stories. Personality journalism has not hit New Zealand yet.

There is presently an 'enquiry' underway to open a third national channel. This will be the first 'privately operated' television service in the country and there is plenty of squabbling over which company should end up with the license. Some of the squabbling involves the Maori natives in New Zealand. When the first English settlers arrived in New Zealand, they found a race of Polynesians living there. The settlers treated these natives with about the same initial respect as the American settlers treated the American Indians. They shot them on sight. Some survived, however, and today they make up the only significant 'minority' group in the country. The national 'conscience' demands that the new, third channel include programming of interest to the Maori population. TVNZ already devotes several minutes per day to 'News' in the Maori language. The new applicants for the third channel are jockeying for 'popular position' by offering various amounts of programming time and equipment and production facil-





TWO national television services (TV1 and TV2) with regional transmitters feeding local translators. Each transmitter/translator has its own assigned call letters but identification is infrequent and local or regional outlets insert advertising just for their own areas.

ities for the Maori minority. The offerings have been meager to date; one contender was called on the carpet because he tried to make a major issue of 'doubling' the planned 'Maori Time' per day in his broadcast day. The 'doubling' worked out to around **3 additional minutes** per day.

The final decision awarding the third channel will probably not turn on the Maori issue. Of far greater concern is the way the applicants intend to program and equip the service. One of the applicants has done prenegotiation with CNN hopeful they can import via satellite the CNN service as a 'filler' thereby allowing them to be 'on-the-air' a higher percentage of the day than TVNZ's two channels. CNN is already available in the Pacific,

being fed via satellite to Australia and many other areas (including Japan's new cable industry). This particular applicant for the third channel believes movies, sports and news as a package would be commercially viable in New Zealand. Satellite figures into the sports portion as well since rugby (the English equivalent of football) is widely played and followed there. We uncovered one 'pub' in suburban Auckland that had purchased a seven meter (23 foot) C band dish system for around \$30,000 (NZ) solely to receive the Australian weekend 'football matches' via satellite. When the Australian C band TV service was terminated in favor of Ku band service on the new Aussat satellite earlier this year, the pub found its Saturday afternoon gross revenues dropped off by \$4,000 per week!

There is a surprising attitude towards satellite TV in New Zealand official (i.e. government) circles. Given the government's sensitivities to the importation of 'foreign ideas', it surprised us to find no formal disapproval of satellite TV. The government has a film censor board, for example which must check out each movie before it is placed on television or put out for sale in the thousands of 'video shops'. Violence, frontal nudity, sex on the screen all count against the film. TVNZ refuses as a matter of policy to allow 'music videos' on the air there; 'MTV' would simply be banned. Books on public library shelves and available from schools are also closely scrutinized.

In addition to the present two-channel-monopoly of TVNZ, there is a slow acceptance of multiple private radio services as well. There are two 'basic' national radio services and like the string of TV transmitters which cover the country with video, the radio services are also 'trunked' all over

## AT LAST, REAL FM COMES TO CHRISTCHURCH.



FM was just coming to Christchurch (third largest New Zealand city) during our visit. Detailed instructions for 'tuning in FM' on radios was presented on television.



both the north and south islands. Some, private, commercial radio does exist but Christchurch, the third-largest city (population more than 300,000) was just getting its **first** commercial 'FM stereo' service this past June. FM is 'new' in New Zealand, and while the wide-coverage AM band is extensively used by the national monopoly the commercial broadcasters are being shuttled off to FM. One suspects this was a deliberate move to keep the commercial stations from becoming too popular or powerful in the face of the national AM 'monopoly'.

So given this sketchy background, you can imagine the surprise of the pioneers in satellite TV there when, after a few anxious moments, they discovered **no real opposition** to the importation of US and Australian television via satellite.

"After our initial reception tests, where we found out we could do it, we had to develop a selling strategy" remembers **Martin Lubronski** of the firm **Satellite Television Systems**. "We decided that commercial establishments such as pubs, motels and hotels were our best market since the first systems would sell for around \$15,000 (NZ) and we doubted there were private individuals able to spend that kind of money."

First the firm went to the national government for a 'policy reading' on satellite TV. They were given a tentative go-ahead but shuttled to the Post Office where private radio licenses and the like are approved. The Post Office, according to Lubronski, 'yawned' and said (in effect) **'Go ahead and try if you wish, but it will never work'**. Apparently engineers at the Post Office (ie. FCC) had been reading the standard 'Intelsat literature' and believed anything smaller than an 18 meter dish at a cost of several million dollars was simply not going to 'play'. When it did play, rather than rethinking their approval, the Post office let it stand. That decision has stuck now for some three years and under it perhaps 50 or so seven and eight meter C (or more recently, C + Ku) band terminals have been installed. The pricing has changed; it was around \$15,000 (NZ) in the opening days; now it is closer to \$30,000 (NZ).

This would be a good point to direct your attention to something called 'exchange rates'. Americans not directly involved in the banking industry are insulated largely from worldwide variations in the value of money. Since the end of World War Two, the US dollar has been the strong(est) international currency against which all other monetary units are compared. Few Americans really understand, or care, what happens to the 'value' of a Japanese Toyota, for example, when it is produced in Japan and then brought to the United States for sale in US dollars. Perhaps the Toyota leaves Japan with an equivalent yen cost of

\$6,000 in US dollars. The American distributor agrees to pay for the car in **US dollars** when it comes off the boat in Long Beach. While the Toyota is in transit from Japan, the day to day fluctuations of the yen and dollar change such that by the time the car arrives in Long Beach, it is now worth \$7,000 US. The distributor screams foul because he had agreed to pay \$6,000 for it. **The car appreciated in dollars in transit** simply because during that period of time the number of Yen to the dollar changed; it went down. When products are sold in their country of origin for local currency units but paid for in the USA in US dollars, some very mischievous things can happen to the actual dollar cost between the time of 'purchase' and the time of delivery.

New Zealand's currency unit, their dollar, has been averaging around 60 cents value when compared to the US dollar of late. That simply means the \$30,000 cost 7 meter dish system sold in New Zealand would produce \$30,000 times .6 or \$18,000 US dollars if the seller of the system was being paid not in New Zealand but rather in US dollars for his work. As noted in Coop's Comments here this month, this works to the advantage of the American tourist or businessman visiting New Zealand since he leaves home with say \$1,000 in US travelers checks and arrives in New Zealand with the equivalent of perhaps \$1,600 New Zealand.

In many countries, this 'favorable exchange rate' is masked by excessive rates of inflation. It doesn't do much good to get \$1.60 New Zealand for a US dollar if a quart of milk or gallon of gasoline costs 60% more in New Zealand than it does at home; you simply end up 'even'. It happens that



**'SATELLITE TV'** (left) is posted on the roadway sign of this New Zealand motel while an 8 meter screen mesh dish looms over the building. This motel owner said his \$30,000 (New Zealand) investment was paid off in under two years by increased motel occupancy. "We are too small to put in a swimming pool, there is no room for a pool; so satellite TV seemed like our next best option".



Proj Sched		28 May 86
SUNDAY, 01 JUNE 86		
1630	cnn	HEADLINE NEWS
1700	cbs	PGA GOLF (L, 2.5-hrs)
		KEMPER OPEN, Final round
1930	cbs	NBA BASKETBALL (L, 2.5-hrs)
		CHAMPIONSHIP GAME 3
2200 & 2230	cnn	HEADLINE NEWS
2300	cnn	CONTINUES
(MORE)		

AFRTS schedule as received from 7 meter dish in Nelson (South Island) of New Zealand. KLM receiver, local trans-coder for NTSC to PAL and companion PAL modulator.

with limited exceptions (such as automobiles which are all imported into New Zealand) most things cost about the numerical same there as in the USA. So it really does cost about 40 to 50% less to live there if you are paying for everything bought there with US dollars 'imported' from the US of A.

Now, what does any of this have to do with TVRO system engineering and selling in new Zealand? Plenty, as we shall see. First there is the obvious fact that if you think \$30,000 is a nice **profit** for a seven meter system, you must reconsider whether \$18,000 (US) is still a 'nice profit'. Many who have built and installed seven meter systems in and around North America might not think so.

Next there are the technical challenges of making a system play, for either \$18,000 US or \$30,000 NZ. There is more to such a system than simply the usual seven meter surface, support system, and ho-hum electronics. Recall that the AFRTS reception is via Intelsat and it leaves the USA in our own NTSC/525 line format. New Zealand, like virtually all of the south Pacific, uses the European PAL/625 line format. Connecting the NTSC video to a modulator and then connecting PAL/625 line TV set to the modulator produces a black and white picture that rolls constantly. It is possible to reach to the rear of many TV receivers to readjust the vertical hold control to stop the rolling. But, would you expect 200 motel rooms occupied by temporary residents to readjust their TV sets each time the viewers switched from a local (625 line) service to the NTSC satellite delivered service? Of course not; so you install something called a 'trans-coder' which reconfigures the original full color NTSC signal with 525 lines into a black and white pseudo-625 line signal. Now the PAL TV sets plugged into the

satellite channel will at least stay 'locked up' even if the picture is no longer in color. Retaining color from NTSC to PAL is another (very) expensive step; far beyond the budget of even a large hotel system.

The AFRTS signal is transmitted in half transponder format on an Intelsat bird. Satellite Television Systems has used KLM Skyeeye (4) receivers and more recently STS (MBR) receivers with 'half transponder filters' installed. They report they are very pleased with the performance and reliability of the US sold receivers. In addition to modifying the bandwidth to half transponder, they also modify the AC power supply so the receivers will operate from the local 240 volt AC power mains.

Systems sold to date in New Zealand have been sold as complete turnkey packages; that means for \$30,000 or less the customer gets not only his dish and standard 'satellite electronics' but the special equipment as well. That includes integrating the satellite channel, via a trans-coder and modulator, into the cable distribution system within the motel/hotel complex. In effect, the installer is converting an **MATV** system into an international grade **SMATV** system. The buyer demands that type of package since he wants his customers to be able to simply dial-up the 'international TV service with no special training nor instruction. There is an acceptance of the 'black and white only' display of NTSC although some of the hotels with big screen projection systems have purchased NTSC packages for projection showing.

The 'death' of Australia on C band hurt badly; even more so in New Guinea as we shall see in a subsequent report in this series. Martin Lubronski believes his firm has to become adapted to Ku band service as well, quickly, to maintain their national grip on TVRO in New Zealand. When their 'Pub Customer' in Auckland saw his retail business drop off by \$4,000 when the Aussies removed weekend 'football' coverage from C band, Lubronski went to work to make Ku band play. If one studies the Aussat coverage maps, and the relative location of New Zealand, it becomes apparent that a regional Aussat beam intended for southeastern Australia might have a chance of making it to New Zealand. It is about like having a Ku band bird boresighted on Kansas and trying to get a useful signal in Miami, from the North American perspective. You will also notice if you study a map that only the 'North Island' is roughly parallel with the southern fringes of Australia; the South Island extremities extend far closer to the South Pole than any part of Australia. This makes the South Island the difficult 'do' for both C and Ku bands.

(Series continues in September issue.)



## CABLE BASICS 1: THE INTER-RACIAL HEADEND

### NO LOSS Here

A significant part of the civilized world now receives their primary television services via a coaxial cable connection. Canada, for example, boasts a 'cable penetration' in the 75 percent region. Holland boasts more than 50% cable 'penetration' and the United States is not far behind. Cable, which began its duty cycle in the very late 40's in the hills of Oregon and Pennsylvania has become the investment communications medium of the 80's and by all appearances, satellites notwithstanding, this trend should continue through the 90's.

The popular belief is that every community in America worth cabling has been cabled now; or is in the process of receiving cable service. This is not altogether true as we shall see. At the same time the US approaches cable saturation, other areas of the world are just now beginning to discover cable television. In this series of reports we will examine first what a cable system is, how it makes money, and then how it works. If you are a typical reader of CSD, you have an interest in bringing television to people who have not otherwise had television available. That means that you may be daily driving past or through opportunities in cable television and one or more of those opportunities could well turn your life and lifestyle around by making you exceedingly independent financially. The cable history is filled with true stories of individuals possibly not as smart as you who have carved out small cable niches and who have correspondingly found there are better things to do with one's life than report to work at 8 AM each morning and report home at 5 PM each evening.

It is very difficult (although hardly impossible) to lose money with a cable system. If. That's the key word; if. If you spend sufficient time planning your cable system and determining how your cable system will pay for itself. Most cable systems are funded, that is financed, by either loans from lend-



ing institutions, loans from friends and relatives, or in the case of those who have their own surplus capital laying about, by direct owner/operator investment. Before we are done with this series we will study and explain how you create a 'paper cable system', consider the financing alternatives, and then finally arrive at the best decision for you to get the system built and operational. A cable system is a little bit like a well pump. Once you get it primed or operating, it pours money through your cash register every day of the year come rain or shine. Cable systems have an extraordinary reputation in the financial world for generating something called 'cash flow'; or dollars which the owner and operator can 'divert' or funnel into other projects or investments. A very abbreviated explanation of 'cash flow' follows. We will look at it in greater detail in a future segment of this series since a full understanding of 'cash flow' is important to the ultimate success of your cable investment.

**CASH FLOW:** Every business generates gross revenues, or the input of cash resulting from



the sale of goods or services. Every business has operating overhead and capital expenditures (funds spent to launch the business). The money management of a cable system involves the taking of the receipts or gross revenues and applying those revenues in a careful manner against the day to day operating expenses, and, the retirement of the initial debt created to launch the business. Let us suppose that the business cost \$60,000 to start and it costs \$500 per month to operate. You have elected to repay the original investment dollars (\$60,000) in 60 months or five years. That means that you will repay the original debt at a rate of \$1,000 (principal) per month. Now we have the monthly operating 'overhead' defined: \$1,000 'debt' and \$500 operating expenses. Suppose now that by the sixth month of operation, the business is grossing \$3,000 per month. The difference between the gross income (\$3,000) and the operating expense (\$1,500) is your 'cash flow'; \$1,500 per month in our example.

Now, what might you do with that '\$1,500 per month cash flow'? You could spend it to live. Or, you might spend it to start another (cable television) business in a different community or area. Given the type of numbers most cable firms generate in 'cash flow', only the most careless of investors would take **all** of the cash flow and spend it on fun, games and living. The real business tool here is that because the gross receipts of the typical cable system varies only slightly from month to month (ie. there are no real seasons in cable TV; you can project certain cash flow on paper for years in advance following formulas we will discuss here), the owner/operator has a form of financial 'annuity' in operation. The business self-perpetuates, and once the pain and grief of the planning and construction stages are over, a cable business largely runs itself. We'll see why in this series of reports.

Now, a larger question. Why would we devote space in CSD for this sort of information? There are several good reasons and we'll list a few:

- 1) Cable operators have great financial strength because of their 'cash flow' position. They are in a position to support legislative and judicial proceedings, through their trade associations, because they have the bucks available for such efforts. **TVRO does not.**
- 2) Cable operators have a 'fall back' position if their 'other' business interests fall onto hard times; the cable company just keeps on pumping out the bucks. **TVRO does not;** a man who has invested his entire life's efforts to TVRO falls on hard times when TVRO falls on hard times. We need stronger dealers who have the financial ability to hold on and hold out when

the going gets tough.

- 3) There are still thousands of 'small' cable opportunities in the USA, and thousands more out side of the USA. This is especially true in the Caribbean, Central America and along the northern coast of South America. This is also true in the Pacific, Asia and in some limited areas in Africa. Given the cost constraints of 20 to 30 foot dishes 'offshore' it may well be that for an entrepreneur to turn TVRO into a viable business in the more 'fringe' regions, the entrepreneur will have to first be a TVRO person and then a cable person to make any money in this satellite TV 'thing'.

We'll return to the economics of cable, and what things one looks for when considering a potential area for cable in our next part in this series. Now, let's begin a preliminary look at the technical aspects of cable.

### CABLE/ Lots of Loss

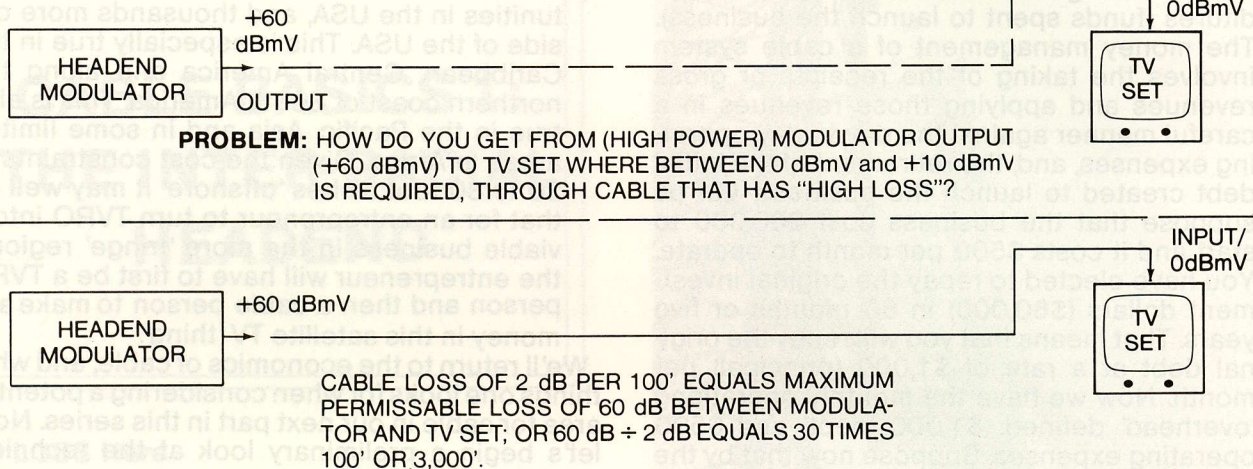
Your basic cable system is nothing more sophisticated than a long section of cable that starts out at what is called the '**headend**' (the location where the signals are first received and processed) and ends up at the last home in the community or area to get service from the headend. All cable, as we have learned in TVRO work, has 'loss'. That means that as the signals leave the headend processing equipment, they are as strong as they are every going to be. We can measure 'how strong' with the aid of a signal level/field strength meter or a spectrum analyzer. As the signals travel through cable (any cable), they become progressively weaker. This is simply verification of the basic law of physics; when something tries to **move** (in this case the electrical signals) there is 'friction' between the object moving (**the electricity**) and the object where the movement is taking place (**the cable**). Friction cause minute amounts of heat, and the heat is a form of 'signal' transfer; some of the electrical energy traveling in the cable is used up in heating up the surface of the wire and this energy is thus 'lost'.

Forgetting physics, **wire attenuates signals**. Any wire, and any signals. So the further we send the signals down the wire or cable the weaker they become. If we kept this up far enough, we would see the signals become so weak that for all practical purposes there would be no signal remaining.

The cable system plans for this and it is in truth a 'giant loss machine'. Signals start out at the headend strong, and they travel through cable. The trip tires the signals out and they weaken. **At a pre-determined point** along the cable, **we cut the cable open** and insert an amplifier station. The idea here is that we carry the signals as far as we



## THE CABLE SYSTEM — A GIANT 'LOSS MACHINE'



can using the original signal 'power' from the head-end. Then when the signal has weakened to a point where it needs to be amplified, we place an amplifier station on the cable line. Now the process renews; the amplifier station adds 'dBs' of signal gain and the weak signals that went into the amplifier now come out strong. Once again, we are ready to send signals through cable and once again the process repeats itself; more cable, more attenuation. Another amplifier and then more cable again and more attenuation. The process can repeat itself some finite number of times. Sticking one amplifier (station) after another is called 'cascading' of amplifiers. In effect, in electrical jargon, the amplifiers are 'in series', one

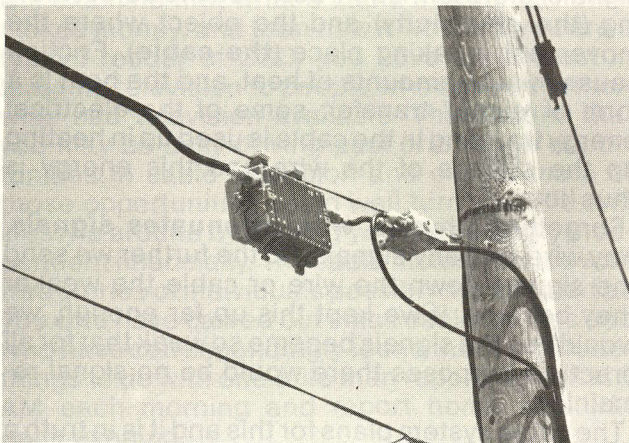
after another.

The reason this process cannot go on forever is important. Each amplifier station adds a small but measurable amount of signal degradation to the TV signals or other signals being amplified. These 'distortion products' slowly add up and each amplifier station increases the amount of **distortion** present. You eventually reach a point in 'amplifier cascade' where there are on-screen or visible effects from the distortion; pictures viewed through the cable system develop a 'grainy' or 'noisy' look; or, they have a swirling, herringbone type 'pattern' hovering in the background. With appropriate test equipment, you can measure first the wanted signal or signals and then the unwanted noise or distortion. From this you can develop a numerical ratio and make statements such as "The **signal to interference** ratio is 57 dB" (that's a good number), or, "The **signal to noise** ratio is 28 dB" (that's a not-so-good number).

The net effect of all of this is that you cannot start stringing cable in Boston and run it to New York City. Long before you got to Connecticut you would have **high** signal to interference ratios and **low** signal to noise ratios. So there are limits to how far you can cable-carry signals. We'll see why and how you can 'shape' if not actually 'break' the governing laws of physics in this series.

In an illustration here, we see a paper-model cable system. We have a headend output signal level of +60 dBmV and we have immediately after the headend 60 dB of cable loss which we illustrate as 3,000 feet. Then we have an **additional amplifier station**, **more cable**, and finally a TV set. Life is not nearly this simple but this does illustrate the principal of cable.

(Series continues in September issue.)



**CABLE LINE AMPLIFIERS** are encased in heat radiating metal enclosures designed to keep the electronics cool, protected from the environment, and yet readily available for maintenance and trouble shooting.



## BRIGHTON/ UK SHOW UPLIFTING EXPERIENCE

Peter C. Sutro

### CABLE '86 SATELLITE SHOW

Brighton, England is to London what Atlantic City, N.J. is to New York, with hotels and motels, restaurants, bars, casinos, night clubs and even a boardwalk and several piers jutting out into the cold English Channel. Its' tens of thousands of tourists from all over the United Kingdom and Europe hope for a little sunshine with which to tan their pale bodies but are usually disappointed by overcast skies and traditional British rain. However, from July 8 - 11, Brighton was converted into the location for the first really **major** home satellite TV exhibition to be held in Europe and even the weather cooperated. There have been dozens of TVRO shows in Europe over the last five years but all have been minor events until now. I attended one in Birmingham, England in the fall of 1983 which had, as its U.S. delegation, Bob Cooper, Andy Hatfield of Avcom and Jamie Gowen of ADM. The only representative TVRO exhibitor was Satellite TV Antenna Systems Ltd. (SATVRN) headed by Peter Gray and Steve Birkill, one of the true pioneers of the international TVRO industry.

Since that show there have been numerous others in Switzerland, Holland, Sweden, Norway, France as well as annual shows in Great Britain. Most recently, I attended a show in Basel, Switzerland this past February which had only about 20 exhibitors and well under 1,000 visitors. It was a little bit like watching paint dry as exhibitors talked to one another and occasionally to a visitor who could best be described as a "tire kicker". So it was with some misgivings that I decided to attend the Brighton "Cable '86" show this July. Luckily, my misgivings were unfounded, as what I found was a very professionally organized show with 75 very attractive booths, well qualified personnel, about 6,000 visitors and an enthusiasm which I would equate to the feeling one got at an STTI show in the 1983-1984 period - perhaps like the second Nashville show.

The **U.S. exhibitors** were few in numbers but the products they exhibited were professional and well suited to the European market. They included Echosphere Corp. with their own Echo-star-Europe line of LNB units, 1000 E receiver (continuous tuning), 3000 E receiver (infra-red tuning) and 3000 E positioner made by Houston Tracker which interfaces with the 3000 E receiver, plus a 2.0 meter Laux antenna with a newly designed horizon to horizon mount and Seavey polarotor feed and orthomode coupler, and, a DH Antenna 32" dish which was the talk-of-the-show. NSC's booth featured Gensat and Sony receivers, Chaparral polarotors and Northsat offset antennas while the Intercomm booth featured products from Drake, Stolle, Chaparral and Avcom. DH Antenna showed its 32" dish together with 1.2, 1.5 and 1.8 meter prime focus antennas.

**Among U.S. industry leaders** present as exhibitors or visitors were Ron Wysong and Mike Brubaker of Drake, Jamie Gowen of ADM, Andy Hatfield of AVCOM, Frank Tolsdorf of Superwinch, Lewis Larsen of L.T. Inc., Vaughn Baugh of Odom, Frank Weeks of DH Antenna, Steve Maziarz of MSE, Joe Massa of Anderson Scientific, Scott Zimmer of Echosphere, Sally and Jim DiDonato and Jack Hanna of NSC, Jim Davis of Intercomm, Gary Grimm of Maxi Rotor and many others. From Canada we saw Sam Singer of a re-born Gensat and Rick Hebert.

The antenna display was on Brighton Beach which required a very long 600 meter (almost 2000 feet) cable run to the exhibit hall. Dishes ranged in size from 3.7 meters (12 feet) to .82 meters (32 inches) and were about 75 in number. Among them were prime focus, cassegrain and offset feed antennas, with prime focus seemingly gaining ascendancy over offset which, up to now, had seemed to be favored. Another novelty was the presence of several perforated antennas which had perviously been looked down on because of perceived signal loss at 11 GHz. Many antennas were rigged out with orthomode feeds but there were many Chaparral Polarotors in evidence as well as a new, low-cost entry in the polarotation field from Maxi Rotor. By far the most eye-catching, although the smallest exhibit in the antenna farm, was the 32" DH Antenna dish. Throughout the three days, incredulous crowds gathered around it passing their hands over the feed horn to verify that the TV monitor (which was larger than the dish itself) was not being fed by a VCR. The signals received from ECS-1 as well as Intelsat V/11 (CNN) were deemed as "quite acceptable" although we were not able to check for rain fade as the British weather, uncharacteristically, refused to cooperate! Many claimed that a super-hot LNB (MSE) was responsible or that the

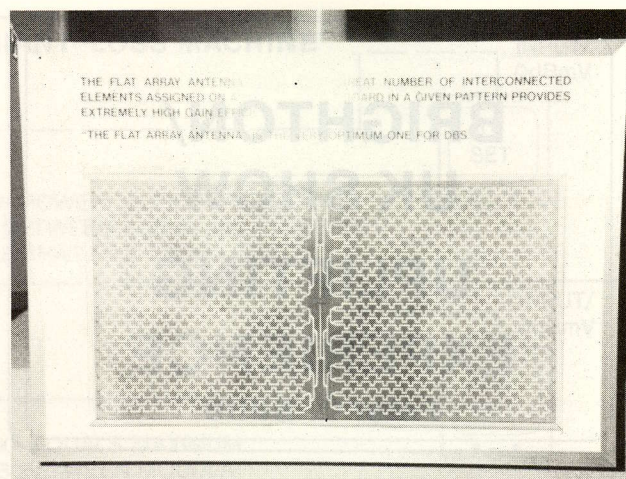


Anderson receiver had been doctored for lower threshold; **neither was the case.** Off-the-shelf components were used as we were able to determine a few days later in central Italy (Bologna) where with 3.0 dB less signal and using an Echostar 170K LNB and the Echostar 1000 E receiver we were able to achieve comparable results. This was a real eye-opener for Europeans who were used to talking about minimum 1.2 meter dishes in the center of the footprint and 1.5 to 1.8 meter dishes as the footprint decreased in power. What this means from a marketing standpoint is that Europeans, and Americans living in Europe, can receive satellite programming with an extremely unobtrusive dish and relatively inexpensive electronics. The other interesting product in the antenna category from DX was a 3½ by 2 foot **flat array** antenna consisting of a printed circuit board. This antenna has the equivalent gain of a 40 cm parabolic (16") but is, at this time, incapable of reversing polarities and is, therefore, suited only to circularly polarized high-power DBS such as that in use in Japan today.

**Another crowd-gathering display** was a feature of the Echosphere booth where \$80,000 worth of Hewlett-Packard test equipment had been set up to measure the noise figure of LNBs. **Dr. Chi Hsieh**, Vice-President of the Taiwanese company, Microelectronics Technology, Inc. (MTI) which manufactures their European LNB exclusively for Echosphere, ran the equipment for all comers who wished their LNB tested. Most LNB's measured very close to the noise temperatures advertised with a few notable excep-



**DOCTOR CHI HSIEH**, VP of Taiwan's MTI, prepares to measure noise temperatures of Ku band LNBs in a special section of the Echosphere booth. Ku band noise figures are very important to Europeans right now, just as they were to US C band market in 1981-82. Dozens of LNBs were tested, many with surprising results.



**CUT-AWAY** inside view of DX's flat, printed-circuit antenna with performance equivalent to 16" parabolic dish. Signs of things to come.

tions. I remember a similar demonstration at a Las Vegas show two years ago which almost caused fist fights among LNA manufacturers! This one created great interest but no fist fights.

**What conclusions can we draw from the Brighton Show?** First of all, it seems to me that the European TVRO industry is **about** to come of age. This does not mean that there will be sales of tens of thousands of systems monthly in the near future as there are too many inponderables concerning programming, the launches of high-powered DBS satellites, scrambling and individual government restrictions on a country-by-country basis. Huge differences also exist from one country to another in the matter of off-air channel availability (one in Turkey, up to 20 in Italy) and the spread of CATV (50% in Holland, 0% in Italy). Just like in the U.S. over the last five years, these problems will have to sort themselves out and mistakes will be made. Cheap and inferior product will be brought in and fail to perform and a new breed of dealer/installer will emerge - some good, some bad. Europe does have an enormous advantage over the U.S. in that **it is starting off at Ku-Band** with all its inherent advantages of small diameter antennas and absence of terrestrial interference. They also should be able to capitalize on our mistakes - but people seldom do. Finally, I draw the conclusion that Europe can not be looked on by U.S. and Far Eastern manufacturers as a dumping ground for product. It is not enough to stick an 800 MHz tuner and an 220 volt power supply in a U.S. receiver and expect it to sell in Europe at a premium price or, for that matter, at any price. The products must be engineered to take into account European Ku-Band formats, styling preferences and other peculiarities.



We must also remember that Europe has a very sophisticated electronics industry of its own and that companies such as Phillips, Thompson, Grundig, Luxor/Salora and many other smaller

companies will not be easily intimidated by competition from the U.S. and the Far East. Europe is shaping up as a potentially vast market but it will not be an easy one to conquer.

## INDUSTRY AT LARGE

## CORRESPONDENCE, NOTES, REBUTTALS AND CHARGES . . .

CSD provides this industry 'forum' for the purpose of allowing members of the industry to comment on industry activities. CSD assumes no legal responsibility for statements made here and those providing such communications are held liable for their statements directly.

### SLIPPED Feeds?

The April 1986 article by Alli Lake in CSD dealing with feedhorns was surprisingly off center. For example, why did the report only consider 'scalar feeds' for parabolic dishes? Surely as the industry's leading journal, you should have been more in tune with the advances and advantages of 'moding feedhorns' and the contributions in this area of a long standing supplier to the industry, National ADL of Simi Valley, California. A moding feedhorn is easily recognized as a 'deeper cup', a recessed feed mouth and a device without the traditional layers of scalar rings. An engineer friend of mine working at JPL who has a tax paid grasp of microwave engineering has carefully explained to me that beyond looking different, moding feedhorns behave differently - illuminating more of the **outer** dish surface area.

My experience in the relatively weak signal area making up southern California is that on well shaped dishes (ie. those with a good parabolic contour) the moding type of feed produces noticeably better pictures. I have a substantial collection of scalar feeds, yanked off of 'trouble shoots' as evidence that the moding feed is indeed a superior feed. Corroborative evidence regarding moding over scalar may be found in the system selections by manufacturers who can afford to select any feed system they deem superior. Initially, Miralite, then Amplica, followed by STS and most recently M/A-Com have all selected the moding feedhorn for their systems. National ADL offers moding feedhorns as separate parts while other manufacturers offer them as integral parts of systems. National ADL feeds have bailed me out of installation problems time and time again since 1983; if I sound unusually grateful to them, I am and their feeds have earned them this sort of praise.

I am at a loss to understand why CSD's Alli Lake ignored the National ADL feed, not because to skip it would have been to leave out just another feed, but more because in leaving out the National ADL unit he missed the entire premise of moding feedhorns and their very significant contributions to our technology. I know that CSD is aware of the National ADL feed since the very same issue contained an advertisement for the feed (page 63). In my experience, and I have shared this with students repeatedly, there is an appreciable performance superiority for the National ADL feed and with its inherent shroud, where there is TI in the area or just weak signals, it does do a superior job.

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3915 Carnavon Way  
Los Angeles, California 90027

**Guilty of not making our Alli Lake report as complete as we might have done. A brief explanation of why this happened. We assigned Lake to cover 'traditional feeds' and servo systems for our 1985-planned 'TVRO Handbook'. He traveled across the USA visiting various feed suppliers and talked with the engineers and techs who make feeds happen. He was not assigned to work on any feeds but the scalar family of feeds. When the 'Handbook' project died, the material languished on a word processor disk until we picked it up in abbreviated form to run in CSD as a straight feature. Alli was guilty of doing what he was told (writing about scalar - only - feed systems). We are guilty of misrepresenting the April feature as covering all there is to know about feeds. You've made the moding feedhorn case very well for National ADL and others and one day we will revisit the entire feed subject in some depth as we did in a four part series in the fall of 1984.**

### ZAP/ Gotcha!

I have been reading with great interest articles dealing with satellite TV since 1979. Coop's contribution to this new telecommunications frontier is enormous indeed. One item which I have not seen written about, however, does concern me. And that is the exposure of human flesh to hazardous radiation (such as microwaves) during installation and operation of dish systems. An example: recently some friends and I were installing a small four foot dish and a homemade single conversion receiver using a commercial (Avantek) LNA. During adjustment of the feedhorn, manually, I felt that **my hand was getting warm**; especially the back of the hand which was turned towards the feedhorn. Since that time I have been concerned about the cause of this heating process and the extent of damage which I may have done to myself. I feel certain there must be information around concerning such hazards, if indeed there are hazards, and I'll feel better if you explained the extent of hazards here.

Jay Mesbahee, Ph.D. (WA4SAW)  
P.O. Box 222  
Ormond Beach, FL 32075

**A single conversion system does create energy in the 4 GHz region (70 MHz plus or minus the received signal frequency). That energy level is measurable with test instruments but according to all available reference data, it is**



approximately 1/100,000th the level (in dB) required to do any type of serious damage to human flesh. However, without more information concerning the type and design of local oscillator in the 'homemade' receiver, we can but speculate as to the actual level of the radiation coming back out of the feedhorn. Since the LNA works best one way (mouth of horn through the input) and hardly at all backwards (LNA output back through LNA and back out of the feedhorn), you had a very effective attenuator in place in the form of the LNA. You could determine the actual level of the radiation from the homemade receiver by simply coupling its output directly into a spectrum analyzer and measuring the LO signal. If it is below +15 dBm or so, you certainly have no reason to lose sleep and your hand will not fall off tomorrow. Now, why did you hand get warm? Assuming it was not a mental reaction to a fear you may have had about microwave radiation hazards (a person can convince himself his hand is getting warm just by thinking about it), the key here is that your hand side facing towards the feed/LNA got warm, not the side facing towards the dish. That should rule out dish heating focusing on your hand (the side facing towards the dish would have felt warm in this case). If you were truly feeling the sensation of heating, that does (indeed) sound like microwave heating to us. Have you done damage to your hand, if by some unknown method you were exposed to microwave heating in this process? Not enough is known about the short term effects of microwave heating to produce an answer in absentia. If you do feel discomfort or pain in that hand still, go to a doctor and explain exactly what happened. Oh yes, get that homemade receiver connected to a spectrum analyzer and find out how much 'LO' signal is coming out of the receiver. The guy who built the receiver may have discovered a new way to generate large amounts of microwave energy by accident!

#### BLACK Box Software

I want people to know that Encyclware (a computer software and circuit board manufacturer) is now performing four services related to the 'Black Box' solution. First, we are offering video and audio circuit boards for building of the 'Black Box'. The video board sells for \$45. Second, we will repair or rework any Black Box boards giving the builder difficulties or provide alignment and fine tuning. Third, a two-hour videotape is being produced which will offer step by step instructions for building a Black Box. Lastly, a newsletter is available free of charge.

Charles L. Westbrook, Jr.  
Encyclware  
715 Washington Street  
Ayden, NC 28513 (919/746-3589)

**We doubt you are supplying 'audio boards' for the Black Box since at least through the first of August the people at Black Box had not solved the Videocipher audio descrambling challenge. We may not agree with the methods or charges for the Black Box promotion, but it is at least useful to know that people who fall for this, buy a kit of parts, and then discover they are in over their heads have someplace to turn to get their video-only boards working. Oh yes, CSD has no knowledge about the experience or integrity of Encyclware so readers are cautioned to exercise normal buyer cautions when dealing with the firm.**

#### NEVER Misses Boresight

I watch Coop every week on Boresight and never miss a program. I have tried to find the 'Kirks and Tacos' Islands on my maps but cannot find them anywhere. I put in my own dish with the muscle-help of my neighbors. My income is \$415 a month as I am retired on disability. Consequently I spend 14 to 18 hours every day watching television and my satellite dish is a God send to me and my family. I ordered the Black Box solution when it first was announced. Since I have no credit card, I gave the money to a neighbor and he ordered it for me with his

credit card. The next month I ordered the Bag-O-Parts but I have not yet ordered the printed circuit board. Actually, \$50 seems awfully high to me for a printed circuit board. Is there one around that is cheaper??? I would like to also order Coop's SCRAMBLE FAX newsletter but your advertisement on Boresight does not mention the price. I don't have a telephone, just my satellite dish and a video recorder. Please let me know where I can find a cheaper circuit board; I promise to read your letter at least three times.

Leonard A. Novak  
RT1, Hwy 15 at 675E  
Woodlawn, IL 62898

**CSD hopes our industry members will read Leonard's letter over three times. Other than some minor spelling corrections, what you see is what Leonard wrote. Think about what is happening here.. A man on forced disability, trying to somehow live on \$415 per month, has been 'coaxed' into spending first \$50 for the Black Box solution and then something like \$70 (or more) for the parts to build the damn thing. Now he is considering spending another \$50 to buy a circuit board. What will he have when he gets all done? HBO without sound, CNN newscasters who are so inconsiderate as to not use sign language, and Mets baseball without the play by play. Like it or not, we as an industry have a responsibility to the Leonard Novak's out there who have become a member of the great TVRO fraternity and whom we as an industry have now left as naked prey for all of the hucksters and charlatans who have sprung up to con them out of money they don't have nor cannot afford. Leonard, do not buy another thing. Sit tight and wait until some clear indication is here that scrambling is either going to stay with us, or go away. If and when there are additional Congressional hearings, someone ought to sent Leonard to Washington to testify. Perhaps if Congress realized how defenseless Americans are being hurt by scrambling, they'd pay more attention to what is REALLY happening here.**

#### MOUNT Challenge

It is probably one of those not very exciting nitty-gritty details, but there is a burr under my saddle none the less. I must comment on an industry myth which is oft repeated by industry experts; most recently by Jim Vines (see CSD for July). Jim wrote "... the post which the antenna mounts on must be perfectly straight, up and down ...". Hogwash. Not only does the post NOT have to be vertical, it does not need to be even close to vertical! A challenge? Do I hear a challenge out there. OK, I tell you what I am gonna do.

I'll make this statement. The post can be anything it happens to be and that can include horizontal. All I ask is that the polar mount placed at the end of the mount allow sufficient range of motion.

What IS important is that wherever the post is upon installation, it stays in that posture; forever. To prove this statement, I will meet anyone at the forthcoming Nashville show and they can present me with a dish/mount/post combination (that is currently proven to work and is being sold in the marketplace), and, I will align it to the polar arc regardless of the angle the post makes with the ground!!!

Are there any takers out there???

One last note; Jim's article pondered whether there are any OEMs in this business who design and build Az-El mounts. Gracious yes and we are them. Now, bring on those leaning pipes and let's have a go in Nashville!

Robert Crean  
Roundhouse Mfg. Company  
White River Junction, Vt. 05001

**Crean, something of a mount-legend in our industry, seldom makes foolish boasts. If your mount is crooked in Nashville and you cannot seem to get the dish to track, ask Bob to come on by and make it track for you. Pay close attention, he is a fast worker.**



## TRANSPONDER WATCH

## RECENT REPORTS OF ACTIVITY ON DOMESTIC / INTERNATIONAL SATELLITES

Send your reports to CSD Transponder Watch, P.O. Box 100858, Ft. Lauderdale, FL 33310. For late news, call (305) 771-0505.

**TWO** major opponents to legislation to help or bail out the home TVRO industry have surfaced. FCC Chairman Fowler says "The marketplace is ideally suited to making a selection of scrambling system and has already established the M/A-Com Videocipher II as the uniform scrambling format. I do not believe the involvement of the FCC in setting the price to be paid by the consumer for (scrambled) program services is necessary or desirable. The marketplace is by far the best judge of what services should cost". Alfred Sikes, speaking for the NTIA (National Telecommunications and Information Administration) has said "The NTIA sees no good basis to assume that programmers, distributors and marketplace forces will not work efficiently and competitively to deliver the 'video bounty' that satellites can offer to rural and other earth station owners."

**THE** Learning Channel, on TR16 of F3R for nearly five years, is changing from a non-profit organization to a for-profit business. The service is carried on a number of cable systems because of the instructional, course-value programming offered.

**SHOWTIME** has decided it also wishes to be a packager of multiple scrambled programming, adding such services as CNN to its 'one telephone call' shopping list.

**HUGHES** President Steven Dorfman has outlined what his firm may be able to do in the future, given repeat Captain Midnight episodes. Hughes could have the bird do small maneuvers around its center to help plot the general part of the country the signal is coming from (to do so would cause all service signals handled by Galaxy to wildly fluctuate up and down as the bird was 'spun' however), or, compare the interference signal at the primary satellite with the same signal as received by adjacent satellites (RCA is adjacent to Hughes on both sides and such an effort would involve massive cooperation between Hughes and RCA, on short notice, shutting down the uplink on the affected transponder on both adjacent satellites and possibly rotating the adjacent satellites on their axis to plot the incoming signal location), or use aircraft or low-altitude satellites to seek out the uplink signal (it would take days for a low flying aircraft to cover the full US looking for an uplink signal).

**POLAND** has instituted requirement that all dish owners in the country must register the dishes and systems with government authorities. Polish officials are reportedly concerned that dishes are being installed, giving Poles access to 'western news and programs'. Number of private dishes in Poland is thought to be very small; perhaps 50 at most.

**C-SPAN** has issued statement that it will 'never scramble' its service. Question arose during Congressional hearings and was important since programming source is Congress itself even though C-SPAN is owned and operated by nation's cable television operators. Well, that's one channel that you can tell customers they will 'always' have available.

**OAK** Industries reports net loss of \$10.2M on quarterly sales of 37.9M, approximately same loss figures and same revenues as year-ago same quarter.

**MOTOROLA** has asked the FCC to allow it to utilize frequency spectrum in 1700-1710 MHz region. NOAA operates weather satellites in this region and has protested.

**BROOKS** Satellite, Inc. subsidiary United Satellite Services, Inc. has increased its contract with Scientific Atlantic to perform the installation for Ford Motor Company's corporate satellite communications network. The system includes 1.8 meter Ku band dishes and electronics at Ford dealerships across the USA.

**DISNEY** Channel could begin limited testing of Videocipher scrambling system shortly; channel plans full time encryption before end of 1986.

**JAPANESE** weather satellite system, dubbed 'Sunflower', had two consecutive days of downtime when a motor used to drive an infrared scanning system failed. Mirror connects to telescope that looks at earth's cloud cover for imaging purposes. Japan plans replacement satellite in mid 1989.

**SCIENTIFIC**-Atlanta says it may reduce its investment in home TVRO field by cutting back on activities and sales efforts in this industry as a result of the downturn in retail activity. In the most recent 9 month period, SA sales were up 5% overall (all fields; including TVRO which was down) but earnings were off by approximately 25%. Third quarter profits dropped by 83% for firm, which it attributed to 'confusion (in TVRO marketplace) over scrambling of premium programming'.

**PADS** is a cable oriented still frame advertising layout transmission system now being tested. Using British Telecom's Phototext high speed digital technique, US firm Numedia is experimenting with transmission of single advertisements. Firm is making hardware available to participating cable firms (202/944-4110).

**HUNGARY** is latest country to be added to European Sky-channel distribution network. Hotels in Budapest are first to add service and Hungary is first 'eastern block nation' to allow programming 'in'.

**RADIO** Shack Chairman James Roach sees 'no salvation for the home dish industry (by allowing) cable television systems to sell TVRO hardware'. Roach suggests 'there are segments within the cable industry that would like to see the home dish industry disappear'.

**HOSPITAL** Satellite Network is studying plans to export American health education and entertainment programming to Japan. HSN presently reaches 800 hospitals in US on regular basis, delivering both medical training and educational features to receive sites. Japan is considered next step for firm.

**WESTERN UNION** will receive \$24M 'windfall' under FCC decision. Commission ordered other international carriers to reimburse Western Union for payments withheld in dispute over tariffs.

**BRASIL** anticipates between \$400 and \$500 million in C band equipment sales during the remainder of this decade as a results of expanding use of their own C band domestic satellite system.



**CANADIAN** financial investors can now sign up for Canquote satellite delivered financial information services. Service provides real time quotes of 28 different stock, options and future exchanges. Four foot dishes will function with ANIK series satellite and carry a user price per terminal of around \$5,000 installed.

**TRADE SHOW** of the future? CADON II, held this November 3-7 in Chicago, will sell exhibitor space by the minute, not the square foot. Each exhibitor will provide or have canned videotaped sales presentations in lieu of actual booth space, or as supplement to space. 'Space' in airtime is being sold instead of booth space and sites all over USA will be filled with computer-interested show attendees who will stay home and attend rather than traveling to Chicago to attend.

**CHINESE** are actively offering their own launch capabilities in wake of complete shut down of US and Ariane launch programs after failures. Chinese have rocket systems capable of two or three launches per year with sufficient lift ability to place a typical DOMSAT bird into geostationary orbit maneuvers. Swedish Space Corporation has signed agreement to use Chinese Long March 2 rocket to launch a 300 pound low earth orbit communications satellite. Other, larger satellites would be launched using the Long March 3 rocket system if the Chinese are successful in attracting western customers. One problem; while Chinese are not on 'banned list' like Soviets from receiving high tech exports in many areas, there are concerns about shipping high technology satellites to China none the less. Chinese have promised any satellites they launch would stay under control and supervision of western engineers up to the actual launch.

**PRC/** People's Republic of China, meanwhile has purchased a pair of Intelsat transponders for use on a domestic lease. Using Intelsat at 66 east, the two transponders have hemispheric beams which should provide coverage throughout a wide area outside of China and provide a new method for western news organizations and others to 'China-watch' from thousands of miles away from PRC. The two channels reportedly are to be used for educational programming (1 channel) and news/cultural programming (1 channel). One channel is now testing.

**M/A-Com** has signed an agreement with Houston Tracker allowing the Texas firm to build a TVRO receiver using the IRD or internal 'brick descrambler' unit. Other manufacturers with similar agreements include Channel Master, M/A-Com Cable-Home Group and Birdview. Such IRD units will be distributed by the respective receiver manufacturers with a factory cost of approximately \$150 (compared with present wholesale VC2000 unit costs of \$335). No timetable has been specified for the release of such integrated receiver units.

**WEATHER** officials in US admit they are operating in a 'crippled mode' after the loss May 3 of the latest GOES series Clarke orbit weather observing satellite. Only one GOES bird is now operational (GOES-6) but ideally to cover the Atlantic, mid-section and Pacific areas of US requires three satellites. Weather officials are filling in with non-stop aircraft recon flights that circle earth 16 times per day. Next series of GOES satellites, being built by Ford Aerospace, will not be ready until 1989. Of particular concern is blind spots in present coverage program during Hurricane season.

**CARIBBEAN** Satellite Network is new 24 hour per day programming service presently uplinked from Florida on Westar 5, TR16. Service has corporate headquarters on Dutch island of Aruba, is said to be intended for hotels and condominiums located through Caribbean. Programming is mixture of vintage movies and vintage television series with minimal amount of advertising, promotion, or Caribbean identity at present. Western Union contract with firm includes proposal to allow uplink to be shifted to Aruba.

**PEOPLE'S** Choice, pay per view cable directed first run movie service, ceased service at end of May. Service had been scrambled, featuring repeating movies released ahead of the cable premium service 'window' at approximately same re-

lease time as same movies in videotape stores. Service attracted just over 120,000 potential cable customer homes through 11 cable affiliated systems; needed to have over 1M homes potential to survive.

**HBO** denies there was a 'second interference incident' on May 9th but evidence suggests otherwise. Cable subscribers from Virginia to New York noticed momentary interference at 11:07 PM eastern on that date including female voice saying "See how easy it is to unscramble?"

**HR3378** is bill intended to revise US copyrights and to protect private communications at all levels of transmission. Bill would have prevented home dish owners from viewing regular network feeds as well but SPACE intervened and gained compromise that allows dish owners to view outward bound network transmissions although backhaul news and sports feeds will be protected from private viewing by the legislation. Bill would have also denied dish owners access to subcarrier audio services but this too was struck from compromise bill. Penalty for violation is \$500 fine and/or six months in jail.

**TELEPORT** de Montreal is to be new French oriented uplink/downlink and video production center capable of accessing all US and Canadian domestic satellites as well as Atlantic Basin international satellites. The Canadian government plans a communications complex in Montreal, designed to turn the region into a major teleport and video production facility for North America.

**ITALSAT**, Italy's first domestic communications satellite, is to be built at a cost of \$218M by Salenia Spazio. The three axis spin stabilized bird will operate in the 20 GHz downlink/30 GHz uplink region with experimental transmitters also operating for tests in the 40 and 50 GHz region. Spot beam antennas and nine transponders of 20 watts each are to be employed. Tentative launch date is early in 1989.

**CANADA's** 'Sports Network', TR2 or ANIK D, scheduled to scramble with Oak Orion technology on September 1st. Service is intended for cable firms in Canada, duplicates major day-parts of ESPN, and says it wanted to be first Canadian cable programming service to scramble and to insure that when ESPN scrambles, their own transmissions would not provide alternative to private and commercial users.

**STARFIX** is a navigation system using C band satellites that allow precise position determination to an accuracy of under 30 feet. System utilizes up to four domestic C band satellites and small antenna to intercept signals and calculate the exact position of the receiving location. Signals are picked up by 10 inch aperture horn antenna and fed to 'ranging receiver' which performs calculations. System was developed by John Chance and Associates of Lafayette, Louisiana.

**BIRDS** previously scheduled to fly but now grounded by Ariane loss in May: GStar 3, Eutelsat's ECS3, Aussat K-3, Pan-AMSat and Metosat, TV-SAT-1, and Telecom 1C.

**'SNG'** which stands for Satellite News Gathering (process involving direct feed of news coverage from origination point back to station or studio via satellite) is now registered property of Conus Communications. Firm says that it is permissible to refer to SNG as SNG but only when you are talking/writing about 'Conus SNG', not somebody else's newsgathering by satellite. SNG should appropriately be SNG™.

**NATIONAL** Rural Electric Cooperative Association (NRECA) was 'star' of June House hearings on satellite scrambling by announcing intention to create consumer friendly satellite programming cooperative at under \$10 per month. Concept, not yet firm enough to implement, would include several super station signals, a selection of cable oriented programming such as CNN and ESPN, perhaps a family movie channel such as Disney in 'basic' with additional fees for other premium programmers (Coop Comments; this issue).

**DISCUSSIONS** between Hughes and PRC could lead to establishing satellite launch complex in Hawaii as commercially owned 'competitor' to Florida launch system. Hughes is seeking entry to 'third world needs' for satellite systems and might be considering Chinese partnership as means of enter-



ing that market for future satellite systems.

**RCA** Astro-Electronics will probably be supplier of next generation Canadian (ANIK-E) satellites. RCA would provide 50 channel C and Ku band 'hybrid' birds for Canada to be launched in 1989. Canadian firm, Spar, would do actual system assembly and RCA would provide key sub-sections as well as technical expertise and planning.

**US** Defense Department may end up as interim 'player' in satellite launch game if current bottleneck continues in launch capabilities. DOD plans to take over launch of military satellites in certain size areas and will create a system of medium sized launch vehicles for that purpose. DOD says they expect to have launch capacity greater than they will use, would consider offering this capacity for launch of private satellite systems as well. Earliest availability date would be late 1988 or early 1989 however.

**INDONESIA** will receive special treatment on Shuttle when shuttle begins operations again in mid 1987/88. Indonesia's Palapa system is hurting badly after launch failure of Palapa B bird and subsequent erratic operations of existing B1 bird. Indonesia depends heavily on satellite system to communicate with more than 13,000 islands that make up country and recent unexplained erratic behavior of sole remaining operational satellite have Indonesians concerned. After Palapa B3 is launched, next priorities will probably go to India, then Western Union (6S) and American Satellite's ASC2.

**SPACE** insurance. Fortunately nobody needs any new launch insurance at this time with all launch vehicles grounded. However, prior to latest spat of launch failures, launch and place-in-orbit insurance had risen to as much as 30% of cost of satellites at premium level. RCA, in launching last Ku bird, elected to launch without insurance claiming insurance was too expensive. At present time, launch insurance is simply not available, at any rates as insurers and re-insurers are not willing to risk their money in insuring of satellites.

**PENALTIES** for jamming of satellite signals, ala Captain Midnight, would be increased from \$10,000 to \$250,000 per incident and jail terms would jump to a 10 year maximum under new legislation (HR4952). The same legislation would also make unauthorized commercial interception of video signals a misdemeanor punishable with a \$500 fine and up to 6 months in jail. The legislation protects the 'rights' of home dish owners to receive 'front haul' or regular network feeds.

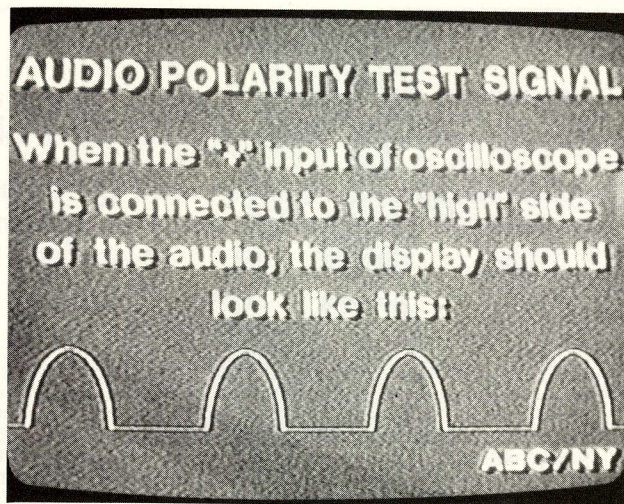
**EUTELSAT** will launch 2 Ku band satellites in 1989 and 1990 using Ariane launch facilities (3 satellites) and one additional satellite at an unspecified time using the Shuttle. These will be the next generation ECS birds.

**DISCOVERY** Channel, recently bankrolled by major cable operators to allow it to increase the length of its programming day and improve program content, will begin charging MSO and other cable carriers 5 cents per subscriber home per month effective 1 January. The firm is also expected to scramble its Galaxy 1 service.

**FCC** Advisory Committee on 2 degree Orbital Spacing has issued list of recommendations to implement 2 degree spacing first at C band and later at Ku band. Group suggests (1) placing C band birds 0.05 degree east of actual assigned locations and Ku birds 0.05 degrees west of actual assigned location when two separate birds, operating on different bands, are to be occupy the same orbital assignment; (2) opposite polarization on adjacent satellites within same band; (3) increase in satellite transponder receive system sensitivity to aid smaller uplink systems; and (4) ground controlled polarization switching on birds so satellites can switch vertical and horizontal channels around if required while in orbit. FCC will study recommendations and develop working plan.

**HOTOL**, British conceived Concord size low space vehicle designed to transport up to 11 tons of cargo into low earth orbit, will be offered to consortium of European nations this fall. British are seeking financial backing for project and first orbital flight would be in the 1989 time frame.

**SPACE** failures: Ariane V18 launch failure traced to problem in



ignition system of third stage; future plans include pre-flight testing of ignition systems. Titan 34D explosion at California's Vandenberg AFB April 18th traced to rubber insulation seal between rocket motor solid fuel sources. Fix is to have better seals, more inspections. More than 70 launches of Titan have previously gone off smoothly. Delta launch May 3rd destroyed GOES weather satellite. Failure there traced to electrical short circuit that closed fuel valves prematurely. Fix is better insulation in wiring harnesses. Delta and Titan flights likely to resume early in 1987 if not before while Ariane resumption date not yet firm.

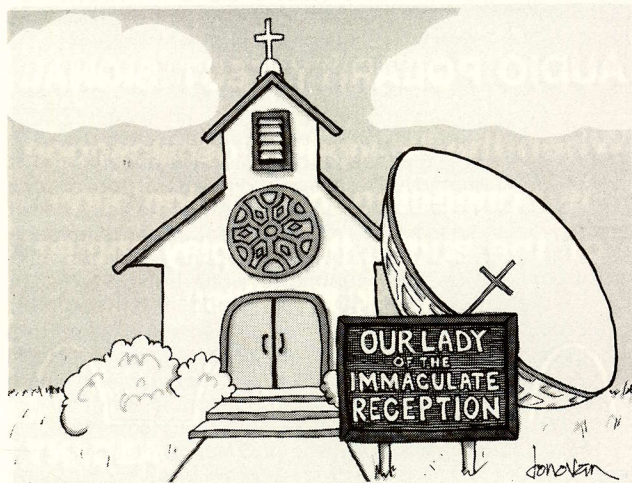
**PANAMSAT** problems with Intelsat continue. Intelsat must give 'approval' for privately owned PanAmsat bird to be launched after determination that new South American bird will not cause economic or technical damage to Intelsat system. Intelsat says it cannot consider formal PanAmsat application for 'coordination' until PanAmsat has filed information explaining how all 24 (C band) transponders will be used. To date, only five of the transponders have been publically spoken for.

**NASA** has decided not to pursue earlier plan to strap Centaur upper stage rockets onto heavy scientific and military space loads carried into low earth orbit by Shuttle. Plan had been that Shuttle would carry payloads into low earth orbit while Centaur would relaunch payloads. Decision to not pursue Centaur was based on safety concerns according to NASA. Primary loser is Department of Defense since most civilian satellite payloads do not require the power of Centaur to go into Clarke Orbit or deep space flight mode.

**FAILURES** by Shuttle, Ariane and Titan/Delta have renewed efforts of Soviets to attract launch business into USSR. Russia has re-asked for permission to bid on launch of next Inmarsat (maritime/air) communications satellite using their 'proton' family of launch vehicle. Soviets are not likely to 'get the business' since Inmarsat contains many modules created by US defense contractors such as Hughes and exportation of satellite, with modules, to Soviets would violate ban on such technology exchange to Soviets, even if satellite(s) were only 'passing through' Russia on way to space.

**CELSTAR** is name given to a pair of satellites that would operate from 170 east and 70 east, providing international business, video, data and communication circuits over region bounded by western North America and Africa; covering virtually everything in between across Pacific and Indian oceans. RCA 5000 series satellites, same as proposed for Canada's ANIK-E next generation satellites, are planned. Using elaborate network of switched, spot beams, each satellite would have 102 active transponder-beams of 5 watts each with 17 spare transponders on board for failure insurance.





Plan requires FCC approval.

**TERESAT** is controversial company that claims it is negotiating to purchase refurbished Palapa B and Westar 6 satellites. Firm says it will use Chinese Long March 3 rocket launch facility on mainland China to launch satellites. Likely orbital positions for the two C band birds, and users of the satellites not yet announced.

**FEDERAL EXPRESS** satellite program, originally scheduled for late '86 start on Ku band using GStar 3, will either be badly set back by inability to launch GStar 3 on schedule or it may have to find temporary, alternative space-segment accommodations. Beauty in original plan was that GStar would provide essentially same coverage and service on temporary basis while Federal Express's own satellite was being built and launched. With GStar 3 set back, major revamping of interim Federal Express satellite connection program underway.

**DEPOSITIONS** taken in Satellite Financial Planning Corporation (SFPC) \$300,000,000 suit against First National Bank of Wilmington (De) reveal approximately 3,000 home TVROs were financed by SFPC, through bank, in SFPC's one year of operation. Approximately 1,200 of the systems financed also included consumer warranty packages for installations.

**HYTEK International**, at one time a major supplier of home TVRO equipment, says that industry rebound did not occur after March Congressional hearings. Joseph Kokoszka, president reports "The Congressional hearings had no positive effect (on sales) and the industry continues to struggle".

**REUTERS** has asked FCC to rule that customer owned and operated earth stations can and should have 'direct access' to international satellites, such as Intelsat, rather than being forced by 'convention' to transmit their services through an intermediate carrier such as Comsat before being interconnected to the Intelsat system. Issue involves costs of providing international services, and Comsat/Intelsat insistence that 'IBS' (international business service) users must pay them a fee for interconnection. Reuters maintains such interconnection is not required and adds unnecessary cost to customers planning to use international satellite connection services.

**BRITISH** Skynet 4B, the next generation military satellite, is to be launched by Ariane launch services according to an agreement signed just prior to Ariane failure with flight V18 late in May.

**ARIANE V18** failed some 5 minutes after lift-off or at an altitude of 120 miles when the third stage failed to ignite in sequence. Safety officers then destroyed the satellite with commands from the ground to prevent the rocket from landing on land. The payload on board, an Intelsat V satellite, was valued at \$90,000,000 and was totally lost. The reliability of

Ariane now stands at 78% (or roughly 8 successful launches for every 10 attempted).

**DESUG**, the group of professionals tackling the challenge of Videocipher, is 'full'. Publicity about the group in Byte, IEEE publications, CSD and on BoreSight has resulted in hundreds of requests to join the group. Secretary Bob Richardson says the group has more than ample, qualified, professional volunteers now to complete the challenge of Videocipher.

**US SENATE** threat to attach descrambling moratorium legislation onto unrelated legislation dealing with fire prevention (S2180) was result of failure of Senators to agree on direction scrambling issue should take in Senate. Issue was resolved without legislation push by compromise on part of Senator Goldwater.

**RDSS**, a new type of satellite operated service providing precise geographic coordinate information for any vehicle equipped with appropriate transmitter, is off to rocky start. Initial test system was launched on board GStar 2 satellite. With it, specially equipped hand held (transceivers), and vehicular mobile units would have been able to communicate one way with satellite operations center from any location inside of USA. Test package built for firm Geostar by RCA failed, however, shortly after GStar satellite became operational setting program back months or a year. Apparent cause of system failure was malfunction of receiver components on board test package. RCA is investigating to prevent similar episode with next three RDSS test launches. GStar itself is operating properly; Geostar package was 'add-on' unit not directly associated with GStar system.

**IMNET**, pioneer in transmitting financial information databases to individual stock investors, is giving up the PBS transmitted stock market service which PBS sends via satellite within their VBI (vertical blanking interval). Instead, ImNet will switch to an Equatorial Communications microterminal format using the spread spectrum technique.

**CHASE** Manhattan Bank has provided an estimated 2,000 employees on 4 continents with a live, interactive videoconference. Transmission time on Westar 4, Telstar 301, Satcom 1R and a trio of Intelsat birds connected with bank employees in Rio de Janeiro, Puerto Rico, England, Switzerland, Belgium, Spain, Hong Kong and Japan as well as the USA.

**MID-1987** date, previously announced as first-likely Shuttle flight point, may turn out to be optimistic. Some NASA sources now suggesting early 1988 at earliest because of extensive testing required to space-qualify new solid booster rocket.

**MONY** Financial Services installing 100 office Ku band network which will supply one-way video, and 2-way audio. Videostar Connections is handling system and order.

**US Air Force** specialist working on 'Star Wars' planning suggests that US may require initial thrust of 600 launches spread over three year period, or approximately one launch every second day, of satellite systems to complete the system in late 1990s. No mention of where or how that many launches might take place.

**WILLIAMS** Pipe Line Company, major oil field firm, is installing extensive 120 unit Ku band system to facilitate monitoring and control of the firm's 10,000 miles of oil pipeline within USA. Firm chose Comsat Technology Products Starcom System over bids by M/A-Com and others. System is perhaps most redundant ever created, includes split operational control centers in Oklahoma and Iowa connected by fiber-optic link for 99.99% reliability, automatic transponder switching in event of interference to system, and fully redundant 1.8 meter transmit and receive terminals.

**ANDERSON** Scientific has dropped its developmental work on a descrambler to 'beat' the Videocipher technology on advice of their Washington corporate attorneys.

**BRITISH** home dish growth may be badly exaggerated by European trade press; British Government has sold fewer than 1,500 mandatory licenses for home TVROs (\$15 US per dish) after one year of TVRO sales activity.



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SATELLITE  
DIGEST

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THIS segment of CSD functions as an international buy/sell/swap and trade forum for equipment related to TVRO, cable, and (low power) broadcasting. **Subscribers** to CSD are allowed one **FREE listing** in Green Sheets per subscription year (forms to submit copy available upon request). Subscribers are also allowed additional listings at a discounted rate of **\$25 per listing**. Display advertisers in CSD are allowed unlimited use of Green Sheets at a rate of **\$20 per listing**. All others are charged **\$35 per listing**; all orders must have payment enclosed, no invoicing or billing (you may **charge your listing** to your VISA or Mastercharge however). All Green Sheets listings are carried for a single month with a 100% 'roll-over' on the 1st of each month. **Deadlines:** 1st of month for that (current) month's listings. A 'full' listing consists of **120 letters, numbers and spaces** between words or numbers. Print or type all listings submitted; over-long listings will be rejected or edited by CSD. CSD provides this service without responsibility for the character of the listings and cannot validate the integrity of the listings or listers; Caveat Emptor! **Submit listings** to CSD, P. O. Box 100858, Ft. Lauderdale, FL 33310 or **call in listings** not later than 1st of month to 305/771-0505 between 9AM and 4PM eastern; have VISA or Mastercharge card handy when calling.

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## LNBs/C and Ku Bands

No Listing This Issue

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No Listing This Issue

## RECEIVERS/C-Ku for SCPC

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FRINGE AREA RECEPTION SUCH AS CARIBBEAN. EQUIPPED WITH  
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USS MASPRO MODULATORS. 0 - 450 MHz FULLY FREQUENCY AGILE. THE CADILLAC OF CATV/SMATV HEADEND MODULATORS. LIMITED SUPPLY, BRAND NEW, \$650 EACH. (201) 562 0087.

COMPLETE 4 CHANNEL TV SYSTEM/FOUR 10 WATT PEAK PED-ESTAL POWER RACK MOUNTING TV TRANSMITTERS (BASEBAND V & A INPUT) OPERATING AT 12 MHz SPACING BETWEEN 416 AND 452 MHz WITH NO FEWER THAN 50 FOUR POSITION PRE-SET DOWNCONVERTERS (UHF INPUT, CHANNEL 6 OUTPUT) EVERYTHING 117 VAC OPERATED, NOW IN SERVICE. COMPLETE PACKAGE LESS ONLY TRANSMIT AND RECEIVE ANTENNAS, PRICED AT \$4,200. NOTE: EQUIPMENT AVAILABLE IN SOUTH FLORIDA 11-01-86. CHECK OR MONEY ORDER DIRECT TO CSD MAGAZINE, PO BOX 100858, FT. LAUDERDALE, FL. 33310. (305) 771 0505.

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RATES 24 VDC, NEVER TURNED ON; RACK MOUNTING, SEEMS COMPLETE AND DESIGNED TO SELL FOR \$2,900. YOU PROVIDE POWER SUPPLY, NO GUARANTEES ON OPERATIONAL CHARACTERISTICS SINCE NEVER FIRED UP. PRICE \$500 MONEY ORDER OR CHECK DIRECT TO CSD MAGAZINE, PO BOX 100858, FT. LAUDERDALE, FL. 33310. (305) 771 0505

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**(305/771-0505) Quantities limited at this price.**

APPROPRIATE TRANSMIT ANTENNAS (NOT AVAILABLE HERE), RELIABLE LINE OF SIGHT COVERAGE TO 10 MILE PLUS. ALSO AVAILABLE APPROXIMATELY 50 TUNEABLE, LOW NOISE, SELF-POWERED CONVERTERS WITH IF OUTPUT TO TV SET OF CHANNEL 3. COMPLETE PACKAGE GETS YOU ON AIR 3 TV CHANNELS WITH TRANSMITTERS AND 50 CUSTOMER RECEIVING CONVERTERS. FREQUENCIES ARE NOT DIRECTLY RECEIVABLE ON ANY STD TV SET SO YOU HAVE MEASURE OF SECURITY. YOU CAN BE BROADCASTING TO AREA 20 MILES ACROSS WITHIN 4 HOURS OF RECEIVING CARTONS WITH 3 OR MORE CHANNELS. (NOTE: UNITS NOT LICENSEABLE IN USA OR CANADA, TRANSMITTERS ARE OF CURRENT MANUFACTURE AND ADDITIONAL UNITS CAN BE PURCHASED DIRECT FROM MANUFACTURER ALONG WITH ADDITIONAL 'DECODER/CONVERTERS'. PACKAGE PRICE FOR ALL 3 TRANSMITTERS, 50 CONVERTERS \$3,500, FOB FORT LAUDERDALE. CHECK OR MONEY ORDER, DIRECT TO CSD MAGAZINE, PO BOX 100858, FORT LAUDERDALE, FL. 33310. (305) 771 0505.

**VIDEO/Baseband Equipment**

**No Listing This Issue**

**NO CATEGORY**

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- 2) Paste the CSD addressing label on the form here as **proof** of your subscription.
- 3) Each listing is a maximum of 120 letters, numbers AND spaces (**spaces** are between numbers and letters and words), long. There are dashed lines below which correspond to those 120 letters, numbers and spaces. Fill the form out with your listing, one of 'each' per dashed line (after a little practice you may actually grow to enjoy this!).
- 4) If you are a subscriber and this is your **first listing** for your current subscription, **send no money**. That's right-just fill it out (with label) and mail in.
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- 6) If you are a **DISPLAY** advertiser in CSD currently, your cost is \$20 per listing. Enclose payment with listing(s).
- 7) If you are **not** a CSD subscriber, **shame on you**. For this oversight on your part, enclose **\$35 per listing** and may your Vidare dish take on a permanent warp in the shape of a Ruffles potato chip.
- 8) Mail this form, **your payment**, and anything else you think Coop might like to **CSD Green Sheets, P.O. Box 100858, Ft. Lauderdale, Fl. 33310**. OR. Or, drive Carol bananas by **telephoning 305/771-0505** between 9 AM and 4 PM weekdays eastern time and have your VISA or Mastercharge card handy along with your carefully worded listing.
- 9) Listings that run beyond 120 letters/numbers/spaces will be edited to size by Alli Lake (aka 'Alli The Ax') and neither Alli nor CSD are responsible, legally, financially, nor morally for how your listing is butchered in the process (avoid butchered listings; count to 120 carefully).

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**RETURN TO:** CSD MAGAZINE, P.O. Box 100858, Fort Lauderdale,  
Florida 33310 Telephone 305/771-0505



**STOP-PRESS: Late News At Deadline**

SENATE HEARING RESULTS: Senators Danforth (D-Mo), Exon (D-Neb), Ford (D-Ky.), Hollings (D-S.C.), Inouye (D-Ha), Stevens (R-Ak) all voted to hold off legislation until mid-'87 "to allow marketplace more time to take shape". Senators Gore (D-Tn) and Pressler (R-S.D.) were in favor of immediate legislation. Possibility of second round of Senate hearings this year slim.

WEATHER CHANNEL transponder (21,F3R) quit July 27th; service moved to TR19, F3R 'bumping' C-SPAN Senate coverage to temporary home TR8 on F4. This was first outright failure of SATCOM transponder.

SPACE debt reducing monthly, may be paid off entirely by end of year. High attendance Nashville Show will help meet this goal. Proposal to 'merge' SPACE with some other trade association, such as 'DBSA' (Direct Broadcast Satellite Association) receiving serious consideration; may be offered to SPACE board in Nashville. Proposal calls for 14 member board, interim merge through next spring's Las Vegas show, with final merger becoming complete just prior to Las Vegas. One major stumbling block is 'SPACE debt'; another is CBS network support of DBSA and SPACE's adversarial role towards CBS scrambling.

SPACE, to cut overhead and service debt has reduced staff to minimum, dropped key salaries 20%, eliminated Sat-Vision publication, reduced expenditures for 'Inside Space' newsletter. Largest chunk of debt came from \$286,561.70 'Earth Station Day' event last fall.

RUSSIANS have signed agreement with Orbita Technologies' Ken Schaffer authorizing OT to 'distribute' Russian satellite transmitted newscasts through schools and universities and cable TV systems. Orbita planning major cable system 'blitz' for carriage of selected Russian TV programs live via satellite this fall.

ARUNTA corporate sale to cable TV pioneer Irving Kahn has fallen through; Kahn wanted to push Arunta sales to 1,000 top end units per month at \$1,000 plus per unit price. Kahn reportedly now looking for replacement firm to acquire to enter TVRO high-tech-receiver biz.

TCI reportedly testing Galaxy-1 equipment package plus software package lease/sale program in Portland, Oregon cable market; 1,800 TVRO systems using DH antennas are in stream now.

SCRAMBLING UPDATE: Oak Orion chip-clones with permanent-on-enable feature now widely distributed from Canadian creator; clones of clone already appearing in southern USA. Cloned Videocipher chips have 50-50 chance of appearing in marketplace next 60 days; possibly as early as Nashville show. 'Auto-clone' VC chips capable of daily address refreshing next step with target of late 86/early 87. YES, M/A-Com is in trouble.

**CSD THUMBNAIL STATUS REPORT**

**LAUNCHES:** Next Shuttle launch not prior to January, 1988; perhaps as late as mid 1988. Next Ariane launch unknown, earliest likely sometime in mid 1987. Next Airforce Titan launch early 1987. Next NASA Delta launch unknown. Hughes and Chinese (PRC) talking about building launch facility in Hawaii as 'competition' to US launch services. US Defense Department may make surplus military launch facilities available to commercial launches but not prior to 1988-89, using Atlas-Centaur vehicles. Russians have submitted

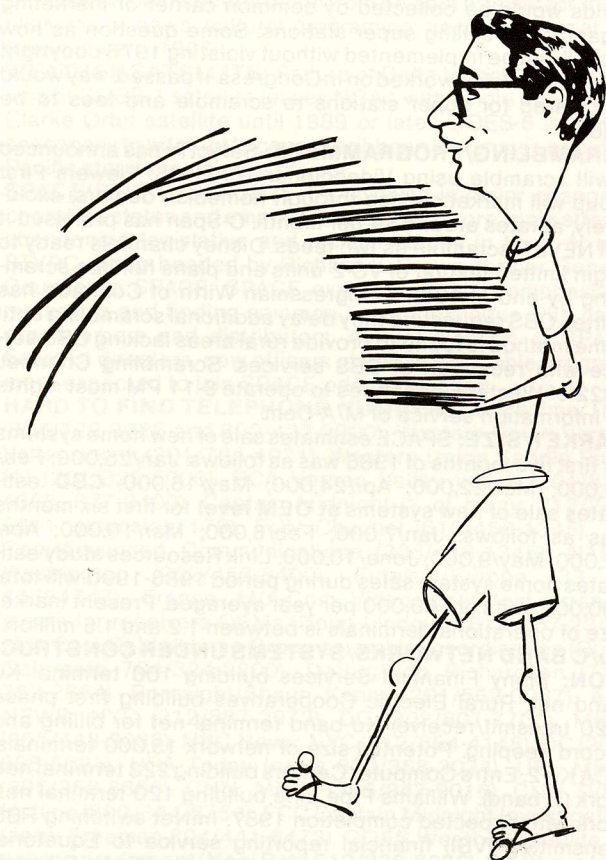
bid to launch next Inmarsat satellite using Proton series rocket. Indonesia's Palapa B3 likely to be first Shuttle flight launch.

**SCRAMBLING/LEGISLATION:** FCC and NTIA opposed to any new legislation to aid TVRO. **HR5058**, Republican sponsored legislation, calls for ban on encryption if and when free marketplace is unable to arrive at fair pricing for home dish owners. FCC would oversee. **HR4952** provides for \$500 fine and 6 months in jail for intentional commercial interception of satellite signals; exempts home dish owners viewing front-haul network feeds not encrypted. Bill passed House 6/23.



# WE DIDN'T THROW THEM ALL AWAY - But, We Came Close!

To restart CSD from Fort Lauderdale, we needed more room. So we emptied a store room where old, musty copies of CSD had been collecting dust for years. It took five station wagon loads to clear out the needed office space. We saved only a small handful of each of the older issues still in stock. We offer them for sale on a first-come, first-served basis.



\$10 will buy a single copy of any issue listed. Including the fabulous October 1984 '**FIFTH BIRTHDAY ISSUE**' of CSD which retells the full TVRO story in historical perspective. OH yes, for \$25 you can have a copy of **CSD Anthology Volume One**, the entire 12 issue set of the first year of CSD and our industry (over 450 pages!).

To order, call 305/771-0505 weekdays 9 AM to 4 PM eastern with your VISA or MasterCard handy. Or, send payment with order to CSD Magazine, P.O. Box 100858, Fort Lauderdale, FL 33310. Prices include shipping to you.

**1982: April** (Bringing TVRO To Africa, Test Results F4, Test Results W4, Video demod Design). **August** (TVRO Video Processing, LNA Basics). **October** (Selling Motels/Hotels, Receiver Basics). **November** (2010: Arthur C. Clarke, How SCPC Works, Low Power Rebroadcasting). **December** (Atlanta Show Report, Figure 8 Curve - Birkill, South African TVRO, Australia's Domsats, Polar Mount Drives).

**1983: April** (Hardware Failures, Harris Delta Gain, Paracclipse 12' Review, ADM 20' Review, BDC Techniques). **November** (Apple Tracks Molniya, Solar Heating With Dish, Antenna Testing Techniques, European CAST 83 Report). **December** (Testing TVRO Feeds, ADM 11 Foot Review, SDS/Rebroadcasting Broadband Satellite TV signals).

**1984: February** (SMATV Headends-Part 1, Pioneer Satellite TV Programmers-Gone, Testing TVRO Feeds-Part 3). **March** (SMATV Engineering-Part 2, Testing Feeds-4, Draco Dish Control Package, Hero 13' Review, USS-Maspro SR2). **April** (Teletext Techniques, SMATV Plants-Part 3, Arthur C. Clarke Indian Ocean Observations). **May** (Tweeking-The Art Of Being Good, 1984 Industry Equipment Survey, Canada Attacks SMATV, South America Domestics, SMATV Plants-4, SCPC). **June** (Dish Mounts, SMATV Plants-5, How To Attend A Show, Re-Visiting Rebroadcasting, SCPC). **August** (TVRO Receiver Design, Canada's Regulatory Problems, SMATV Engineering-6, DOMSATs Offshore-Puddles, Pioneer Taggart, TVRO Mounts-2, SCPC). **September** (Paracclipse 16' Review, RF Receiver Designs, Channel Master Microbeam, SMATV Plants-7, Pioneer Brown). **November** (Gunn-plexer Microwave, LNA Gain Squabble, Pioneers Howard/Baker, Canadian TVRO, SCPC, Birds at 53 and 50 West). **December** (Luxor After The Fallout, Year End Dealer Survey, Pioneer Brough, Arthur C. Meets The Pope, Making Molniya Friendly, SMATV Design/BDCs, Low Cost Quick Mount).

**1985: January** (Man Of Year-Brown, Cosmos Receiver Test, McCullough Receiver Test, Luxor's Marketing Back-Up, Pioneer Ramsey). **February** (Small Antenna Challenge, New Signal Source Testing, Ranger Mesh Antenna Review, Signal Level Meter Tip, Pioneer Clarke, Canadian Report, Scanning Eastern Sky). **March** (Ecuador's TVRO Industry, LNA + Downconverter Evaluation Techniques, Astro Pro Z-500 Review, Genesis-10 Mesh Review, Computer Program Tips). **April** (Receiver Specs/What They Mean, SMATV Report, Aristocom XL-12 Mesh Review, Curing TI With Better Receivers, Consumer Awareness Report, Videocipher II Test Results). **May** (SMATV-CTN Network, Half-Galaxy Theory, Descrambler Interfacing, Costa Rican TVRO, IQ-160 + Omni Solution). **June** (TVRO Industry Consumer Market Profile, Off-Set Fed Antennas, Scrambling Specifications, Receiver Audio Specs). **July** (M/A-Com's Bunker Talks Back, TVRO Comes To UK, High Voltage Line Interference, '20/20' TV Program Good). **August** (Best of Japan-Part 1, BDC Distribution-Part 2, Surge Protection, Squawker and Tweaker Reviews, Superwinch 2010 Drive-Controller Review). **September** (Sharing BDC Without Cable, TVRO Economics, Japan's Best-DX-DSB700, Gensat CDR4/12 Review).

**1986: January** (State Of The Industry, European TVRO Update, Analyzing Analyzers-4, Hurricane Kate Damage Test, Jamaican 7 Meter Dish Construction-2). **February** (Starting Over With BDC, Jamaican 7 Meter-3, Science of Scrambling, Broadcaster Myth, Converting to 12 GHz). **June** (Captain Midnight, Peter Sutro Equation, WTBS To Market CNN, Antenna Basics-3).

**SPECIAL ISSUE:** The October 1984 issue contains nearly 200 pages tracing the full history of TVRO from before TVRO through its 'fifth official birthday'. This is a complete history with more than 100 rare photos and documents that created this industry.



**HR3378** is electronic privacy bill, covers wide range of 'eavesdropping' including tuning in non-approved satellite transmissions. **HR1840** is original Tauzin bill designed to put off scrambling until fair market practices prevail. **HR4414** would require all dish sellers to explain limits of legal viewing to all customers.

**SCRAMBLING/MARKETING:** Showtime/(The) Movie Channel has six distributors participating in \$10 cash bonus (to dealer) plan. Distributors are Anixter Communications, Consumer Satellite Systems, Echosphere, Satellite Receivers Ltd., Satellite Video Services, and Warren Supply. Anixter has limited offer of \$25 rebate/refund when dish users buy descrambler through Anixter and subscribe to CNN/CNNH for year; effect is first-year-free for CNN/CNNH. National Rural Electric Cooperatives Association trying to create \$10 (or under) consumer programming package to include super stations, prime cable programmers such as CNN, and at least one 'family movie' channel' such as Disney. Program not yet

operational. TCI offering dish service on channel by channel selection scheme with one-telephone-call order service in conjunction with M/A-Com, and, offering packages including descrambler on lease for \$25.50 per month covering 15 non premium and 2 premium channels; service without descrambler \$18.50 per month, plus \$99 one time descrambler authorization fee. HBO offering service with Cinemax for \$12.95 (1st service) and \$19.95 (2nd service), or equivalent of \$10.80 (1st) and \$16.67 (2nd) when paid for annually in advance. HBO also offering \$30 rebate to dealers when dealers sell VC2000 and annual subscription to HBO plus Cinemax. Showtime offering 1st channel at \$10.95 and second for \$16.95 (total of 2) with free 12th month when subscribers pay in advance for year. HSPD offers dealers turn-on service for CNN, CNNH with \$2.50 commission to dealers plus plan to allow free in-store display of CNN and CNNH. Anixter will drop ship VC2000 to dish owner after dealer orders with dealer paying \$370 and consumer paying \$413.94.

**SCRAMBLING/INTERFERENCE:** **HR2479** increases penalties to \$250,000 fine and jail term of 10 years for deliberate interference to satellite uplink transmission.

**SCRAMBLING/SUPER STATIONS:** Copyright subcommittee chaired by Congressman Kastentmire of Wisconsin wants legislation passed this session to clear use of super stations by home dish owners. Present proposal is for dish owners to pay 12 cents per month per super station channel into copyright fund to go to programmers for super stations. Funds would be collected by common carrier or marketing organization selling super stations. Some question as how this bill can be implemented without violating 1976 copyright legislation; being worked on in Congress. If passed, way would be cleared for super stations to scramble and fees to be paid.

**SCRAMBLING/PROGRAMMERS:** SelectTV has announced it will scramble using Videocipher 10/01/86. Viewers First group will market service through homedish dealers, exclusively, at rates around \$9 per month. C-Span has promised it will NEVER scramble its two feeds. Disney channels ready to begin limited testing of VC-2 units and plans fulltime scrambling by end of 1986. Congressman Wirth of Colorado has written CBS requesting they delay additional scrambling until some method is found to provide rural areas lacking CBS service with reception of CBS services. Scrambling Channel, TR22 of Westar 5 continues to operate 8-11 PM most nights as information service of M/A-Com.

**MARKET/SIZE:** SPACE estimates sale of new home systems for first five months of 1986 was as follows: Jan/25,000; Feb/16,000; Mar/22,000; Apr/24,000; May/16,000. **CSD** estimates sale of new systems at **OEM level** for first six months was as follows: Jan/7,000; Feb/6,000; Mar/10,000; Apr/12,000; May/9,000; June/10,000. Link Resources study estimates home system sales during period 1986-1990 will total 800,000 units or 160,000 per year averaged. Present market size of operational terminals is between 1.2 and 1.5 million.

**KU/C BAND NETWORKS/SYSTEMS UNDER CONSTRUCTION:** Many Financial Services building 100 terminal Ku band net. Rural Electric Cooperatives building first phase (120 transmit/receive) Ku band terminal net for billing and record keeping. Potential size of network 15,000 terminals, RCA Ku-2. Entre Computer Centers building 223 terminal network (C band). Williams Pipe Line building 120 terminal network with expected completion 1987. ImNet switching PBS transmitted (VBI) financial reporting service to Equatorial Communications spread spectrum microterminals (C band). Bridge Market Data installing 25 Equatorial systems for financial data transmission. Boston Red Sox radio network installing 39 C band audio receive terminals for affiliates. Atlanta Braves radio network adding 25 C band audio receive terminals for affiliates. K-Mart starting construction on 2,100 terminal Ku band transmit and receive system with 1990 completion, GStar transmission system. Service Merchandise testing satellite links between major warehouse facilities.

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**NOW**, if having **all of the relevant facts** concerning scrambling is important to you and your business, you will want to order our **SCRAMBLE-FAX NEWSLETTER**, and complete information for ordering this newsletter is found to the right.



Ford Motor Company expanding authorized dealer network using S/A equipment and Brooks satellite subsidiary for installations. Chrysler has installed 9 meter terminals in US and Mexico to link Mexican plant to US offices through Intelsat, to carry 25 voice and data channels for inventory control and production planning.

**EUROPEAN TVRO:** British government says under 1,500 private(dish) licenses were granted in first year of home TVRO in UK; annual fee is \$15 US. European cable had growth of 4% rising to 11M homes served during 1985. Skychannel going into first eastern-block outlets in Hungary this fall; Budapest Hotels. Poland now requiring federal registration of private TVROs. Italy building first domestic satellite, 9 transponders of 20 watts each with 20 GHz downlink, scheduled for 1988 launch.

**CABLE/BROADCAST SATELLITE GRAPHIC SERVICES:** Numedia provides advertising materials to cable (202/944-4110). Newsgraph provides graphics to smaller and medium market TV stations (202/965-7800). AdSat provides advertising materials to newspapers, black and white and color (305/242-0272).

**INTERNATIONAL SERVICES:** CSS (Caribbean Satellite Service) operating Westar 5, TR16 with 24 hour feeds of movies, off-network syndicated programs, some NBC programming, marginal amount of target area programming for Caribbean hotels, condos. PRC/China using first of two transponders on hemispheric beam from 66 east Intelsat for transmissions of news, cultural programming; second channel will follow in early 1987.

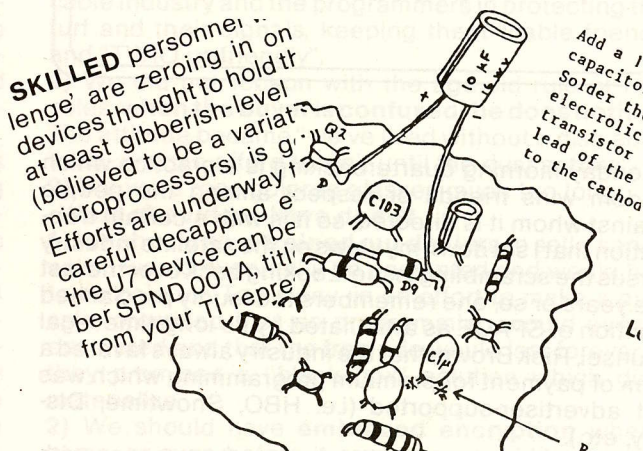
**WEATHER SATELLITE:** Failure of Delta launch vehicle and loss of GOES-7 satellite leaves NOAA with single operational Clarke Orbit satellite until 1989 or later. GOES-6 is moved seasonally to attempt to cover Caribbean in summer, early fall; Pacific storms remainder of year.

**SPACE/STVRC:** SPACE (STIA) involved in major change in operating status and emphasis, becoming more 'main stream' abandoning legislative and judicial battles in favor of new STVRC group headed by Richard L. Brown, former General Counsel to SPACE. SPACE expected to shift emphasis to marketing and finding common lines of dialogue with cable programmers and distributors. Annual election of SPACE board of directors, new officers ahead in fall. Cable programmers expected to join SPACE prior to election.

**HARD TO FIND TELEPHONE NUMBERS:** Showtime/TMC (800/722-8226 and 800/422-9000). Western Union Vernon Valley uplink (201/764-4021). Western Union Saddle River, NJ (201/825-5000). RCA Vernon Valley uplink (201/827-4065, 827-9400). Captain Midnight (1 of many; 212/246-3811 extension 179). FUN Channel (619/456-1345). Ad-Com/Advanced Communications (305/456-1345). NASA/Washington (202/453-8400). Eutelsat/Europe (33 (1) 45384747); France. M/A-Com Videocipher test arrangements for receivers OEMs (Doug Lindquist 619/457-2340). M/A-Com Cable/Home Group scrambler coordination (Rusty Galbreath 704/324-2200). DeSug/Bob Richardson (716/753-2654). Boresight/Shawn Kenny (201/562-0087). ABC NEWS: NYC (212/887-2973), DC (202/807-7700), Miami (305/448-9036). NBC News: NYC (212/664-4148), DC (202/885-5025). USA Today (news 800/368-3024). UPI: Miami (305/358-8860). CNN: Miami (305/947-9016). CNN TVRO Hotline (800/344-6754). FCC Captain Midnight Investigation (Jerry Freeman 804/441-6472). GOES Weather Satellite receiving equipment (Noel Petit 612/338-6086). Off Shore (non US) 10 watt VHF, UHF TV transmitters (213/447-4565, and, 305/822-1421). STVRC/Brown & Finn (202/887-0605). SPACE (703/549-6990). United Video (WGN. WPIX. KTVT et al; 800-331-4806). Westar Communications (Oak Orion bootleg descramblers; 416/968-3602). SCRAMCO (Videocipher video-only descramblers; 317/632-2744 evenings) SelectTV (213/827-4400). SCRAMBLE-FAX 24 hour hotline service (305-771-0575). CSD Offices/Carol Graba (305/771-0505). West Indies Video (Providenciales; 809/946-4273).

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**SCRAMBLE-FAX** is published at 8 to 10 week intervals; you order and pay for only the current issue and are under no obligation to order additional issues. Each issue is 'complete' and updated with the latest information from the scrambling world. **SCRAMBLE-FAX NEWSLETTER** is a one-stop, full reference to what is happening in scrambling, who the players are, and how their efforts are bringing results. **SCRAMBLE-FAX NEWSLETTER... created by Bob Cooper and CSD to keep you informed.**



## 'MY VIEW'

by Peter C. Sutro

Monday morning quarterbacking is a practice which seldom wins friends or respect among the people against whom it is directed, so it is with a certain trepidation that I set down my views on the satellite industry versus the scrambling issue. Looking back over the last five years or so, one remembers the loudly proclaimed position of SPACE as articulated by its long-time legal counsel, Rick Brown, that the industry always favored a form of payment for premium programming which was not advertiser-supported (i.e. HBO, Showtime, Disney, etc.).

This was a position which was easy to espouse with impunity as long as there was no way for premium programmers to protect their signal by encrypting it. The

reality of a M/A-Com VideoCipher or similarly secure system was years away and many thought that it could never be developed with all the technical bells and whistles the programmers demanded. Politically and legally it was a very potent argument against those who considered us pirates to say that we wanted to pay for programming but that HBO et al refused our payments and, indeed, told us to cease and desist watching their movies. This highhanded attitude of the programmers gave Rick Brown some very powerful ammunition in the halls of Congress, at the FCC and at the Justice Department and he used it to its full advantage. More than any other factor it led to the expeditious passage of the **Viewing Rights** legislation in the fall of 1984 which made legal the viewing of **unscrambled** satellite television (at least that uplinked for cable use).

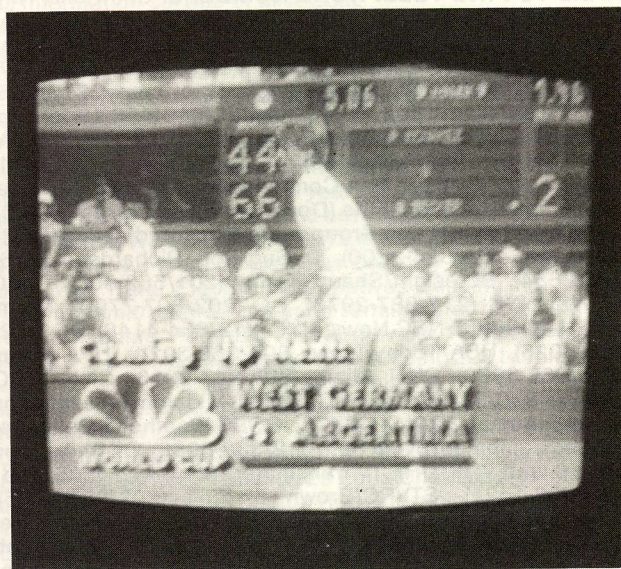
So far, so good; but during 1985 the reality of impending scrambling by HBO became more and more obvious starting in May with partial encryption and continuing throughout the year with longer and longer periods of encryption and culminating on January 15, 1986 (the infamous **S-Day**) with the full encryption of both the HBO and Cinemax feeds. During this period there were many in our industry who felt (or wishfully thought) that something would happen to stop the scrambling. Perhaps the M/A-Com technology would fail or some knight in shining armor would arise in the halls of Congress and cause legislation to be enacted overnight which would put a moratorium on scrambling or, at least, severely regulate the rates and ground rules for its sale to the home TVRO world. Still others hoped for a "black box" solution or a series of "Captain Midnight" episodes which would scare HBO from its

Peter Sutro, a friend of the industry through all of the industry's important years, has agreed to share his timely views on matters affecting the industry each month here in CSD. Peter and Coop conduct a similar 'Point'/'Counterpoint' series in the consumer publication **HOME SATELLITE TV** where a future issue will have Peter explaining the virtues and advantages of small dish Ku band reception while Coop questions that even if the small dishes do work, what (if anything)

that buys us at the present time. CSD and the industry welcomes Peter Sutro to these pages and wishes him a long 'run' in CSD with his 'views'.



COOP (thumbs down) and Peter (thumbs up) 'vote' on the relative importance of small dish Ku band reception in these industry-troubled times, for **HOME SATELLITE TV** magazine.



NBC reception on the DH 32 inch dish in Peter's side yard is virtually flawless; a point Peter considers important for additional dish sales.



goal.

But the opposite happened as the weeks wore on and more and more programmers announced their encryption plans. The unkindest cut of all was perpetrated on our industry by those advertiser-supported networks - CNN, ESPN and (God save us!) CBN who had always sworn that they would never scramble their signals. **Suddenly**, they were coerced into doing it by the CATV MSO's who threatened to drop their programs from their systems if they did not scramble. Then came the super-stations who announced scrambling **and** said that, under existing copyright law, they could not make their signals available to home TVRO's! Still more - finally came the network's turn - first NBC went to Ku-band, then CBS announced that they would scramble using M/A-Com technology which could not be decoded by the home M/A-Com VideoCipher units. ABC and PBS would be the only networks left and, one wondered, how long they would last.

Throughout all this Rick Brown, through SPACE, was seeking legislation, threatening legal action, working with the FCC and the Justice Department and promising the cavalry was on the way. And, indeed he was making progress in the form of several friendly congressional bills, an FCC anti-zoning rule-making, and a Justice Department investigation into anti-competitive practices by cable, movie and programming companies. Mindful of the many miracles performed by Rick Brown in the past in the face of near-insuperable odds and the silver-tongued oratory of our friends on the Hill - Senators Gore and Goldwater and Representatives Tauzin, Rose and Green to mention only a few, the industry was lulled into a false sense of security. Business boomed throughout the summer of '85 but, by Earth Station Day in early November, there were ominous black clouds on the horizon.

A massive mis-information campaign fomented by the NCTA and CATA among its cable company members and, one suspects, aided and abetted by HBO, pictured the sky as going black and TVRO antennas being turned into bird-baths. Sales started slowing down as the public, confused by the many misleading stories put out by the press, stopped buying. But the industry was still in a state of euphoria. With a reported 700,000 systems sold in 1985, it **looked forward to** a 1,000,000 plus sales year in 1986. Manufacturers ordered electronic components from the Orient and stocked up on aluminum and other necessary materials. Letters of credit were signed and inventories built up. Distributors filled their warehouses with special deals and passed them on to the dealers.

**And then the roof caved in** on January 15, 1986 as business at the retail level ground to a halt and equipment backed up to the manufacturer level. As many as half of the nation's dealers went out of the satellite business during the first half of 1986 and a like percentage of distributors followed suit. Many U.S. manufacturers declared bankruptcy or abandoned the production of satellite equipment. Names like Amplica, Automation Techniques, MTI, Locom, Lowrance and many others became footnotes in the history of satellite television. Industry shows became ghost towns with the few exhibitors talking to one another and looking for the dealers who had either gone out of business or could not afford to attend. Trade magazines found their ad-

vertising revenues shrunken to next to nothing and several ceased publishing. SPACE's revenues dropped to a point where it was difficult to pay their bills (especially those for legal, lobbying and public relations services). **Future Fund** was launched and fizzled as its revenues were to be based on sales, **and there were no sales.**

As this is written in July and you won't be reading it until mid-August, it is my fervent hope that things will have improved at the retail level; otherwise the blood-bath will have spread to swimming-pool proportions. However, certain things seem plain:

- 1) We grossly **under-estimated** the tenacity of the cable industry and the programmers in protecting their turf and their signals, keeping them "cable friendly" and "TVRO unfriendly".
- 2) We did not reckon with the age-old rule of retail sales: **when the buyer is confused, he does nothing.** The attitude became "we've lived without a dish all our lives - we can afford to wait until the dust settles".
- 3) We wore rose colored glasses much too long.

#### **What should we have done?**

- 1) We should have **trained our dealers** to sell a service which would eventually be encrypted and would have to be paid for. Too many, in an effort to make a quick sale, promised that no programming would **ever** be encrypted and that the free ride would last forever. Or they promised a "black box" solution which didn't materialize.
- 2) We should have **embraced encryption** when it came, or even before it came, as an additional sales opportunity to market decoders and, better, to upgrade existing systems to state-of-the-art instead of trying to boycott M/A-Com. We bit off our noses to spite our faces.
- 3) We should have done **more homework** on Ku-Band compatible systems, looking towards the day when this would become the delivery system of choice.
- 4) We should have **supported the manufacturers** who supported the industry and not run after inferior products which were being dumped or forced down our throats.
- 5) We should not have allowed ourselves to be duped by the **self-styled evangelists** of the satellite airwaves who tended only to fractionalize us and our efforts.
- 6) We should have realized that this wonderful **satellite technology was here to stay** and looked to the long-haul despite the dog days of 1986.
- 7) We should have sought **compromise solutions** with the programmers which would have given us half-a-loaf instead of polarizing them into irreversible enemy positions.
- 8) Finally, **we should have been smarter.**

As I wrote at the beginning, Monday morning quarterbacking does not win any popularity contests. I have the greatest respect for the entrepreneurial spirit of the men and women who created the home satellite industry, for the dedicated officers and staff of SPACE, for the genius of Rick Brown and his associates and of our fine press corps. We must not give up now; we must profit from our mistakes and press on. We must insist on our fair rights but stop tilting at windmills. We must take a positive attitude to the new business environment which scrambling has created and learn to prosper in it. **We can and will prevail!**



## DEALER SERVICE BENCH

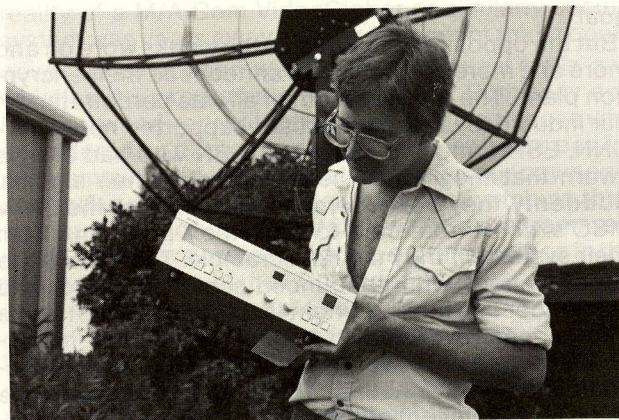
by Alli Lake of Satellite Link, Inc.

It was a top-of-the-line system at the time it was installed; the electronics included a Drake ESR-240 receiver, Satellite Relay Option "D" on screen channel display board, Houston Tracker IV plus Motor Drive, Drake SA24 stereo adaptor, and a 65 degree LNA. The system had been in place for a little less than three weeks, and our customer was saying his !#@\*%! system hadn't worked right since it was installed.

The problem was total memory loss in the Tracker IV. We had already made two trips to the customer's house to re-program the unit, cautioning the customer never to press the sequence "0101" on the unit, as this is the memory clear command. We use Houston Tracker's receiver interface, which allows the customer to move his dish and select channels with one remote control (also, since the remote is UHF, it works where there is no optical line-of-sight for the Drake remote). Since some customers may become confused about how to select a channel, and may press "01" on the remote in an attempt to directly access a channel, we made sure that this was not the problem (channel selection through the interface is Up/Down only). At this point, we checked the grounding of the third prong (earth) ground at the electrical outlet the unit was plugged into, and the shield wire going to the actuator arm. All was in order.

The next step tried was replacement of the 4.5 volt battery in the Tracker IV console, which is used for memory retention. The customer soon had us **back** to re-program the unit. I went there myself, and noticed three nine-volt batteries on top of his stereo system. Further inquiry revealed that batteries were lasting less than a week in the remote control! As I unplugged the battery and re-connected it; a "0" appeared on the display of the Tracker.

Aha! The remote control had a defective keyboard, with a shorted "0" pad, and was transmitting continuously, thus wearing out the batteries in a short time. Furthermore, it was providing zeroes, and the customer would provide ones when he attempted to access certain satellites. I removed the remote control from the house, instructing the customer to use his Drake remote for the channel selection, and to use the front panel keyboard of the tracker for changing satellites. Three weeks later there had been no memory loss. We had found the problem at last!



Of course, the remote control was replaced by Houston Tracker under warranty and the new unit has been working fine for about two years now. And this illustrates, in the service business, you must leave no stone unturned.

That's it for now, see you next month!

---

COOP/ continued from page 5

the self-defeating 'rumour mill' the industry now labors under where everyday brings new (false) claims of the vulnerability of Videocipher. If Desug tries, and fails, that will tell us something very important; we must go ahead and accept Videocipher and build an industry on that acceptance.

None of this is going to happen overnight. As Richardson tells us on BORESIGHT, the Desug effort may last another 6 to 8 months. They now completely understand the 'lock' used on the safe; they are simply working on 'picking the lock'. In addition to our in depth look at the Desug effort beginning in CSD in September, we'll keep you advised here in Coop's Comments as well as in the SCRAMBLE-FAX Newsletter and on the SCRAMBLE-FAX Hotline.

### WHEN TO BUY/ When To Sell

American Motors once built a car called the Nash Rambler. Ford Motors once built a car called the Edsel. Emerson Radio once built a complete line of television receivers. Throughout commercial history, firms have entered business fields when the market looked like they could make some money and they have left the field when they could no longer make money there.

RCA and Sylvania and dozens of other TV set manufacturers used to build all of their television sets in the USA. Then they moved their TV set production plants to Mexico when US labor rates and the cost of producing in the USA grew too expensive. Ultimately, they either quit building television sets altogether or they moved to the Far East to avail themselves of better production efficiencies.

Businesses enter and leave fields of business because of profits. When they can make money in a field, they stay. When they can no longer make money in a field, they leave.

**Richard L. Brown** of the Washington law firm of Brown and Finn has resigned as general counsel of



SPACE/ (the) Satellite Television Industry Association. Brown leaves SPACE for the same basic reasons that Ford quit building the Edsel. There is no money left here.

But Brown is not leaving the satellite television industry; rather he is in the same management mode as RCA some ten years or more ago when they shifted their TV set production outside of the USA. He is looking for a new way to continue his satellite TV business practice. That plan involves something called (the) Satellite Television Viewing Rights Coalition (STVRC). Here is what that is all about.

SPACE, somewhat at Brown's direction, had developed an image of being a hard nosed trade association unwilling to negotiate or compromise. SPACE/Brown tactics included seeking out ways to embarrass adversaries; including firms such as HBO. SPACE/Brown tactics also included frequently mentioning a desire to bring lawsuits against adversaries, such as HBO. Through all of this, stretching back nearly five years, there developed an attitude at HBO and others who found themselves outside of SPACE looking in that they could never work with SPACE/Brown. This attitude played a major part in the ultimate development of our scrambling situation as we see it today. Had SPACE/Brown not been as adversarial in their conduct towards HBO and others, there is the probability that at least some of our scrambling problems might have been headed off before they started, through compromise negotiations. Alas, Brown preached that compromise was not necessary and unwise, and SPACE's board and now two-year-term Chairman Taylor Howard usually agreed.

**There were little incidents along the way** that illustrate this. M/A-Com invited Chairman Howard and members of the SPACE Executive Committee to a private demonstration of Videocipher in North Carolina in the spring of 1985. Howard's initial reaction was to accept and go. Brown persuaded him otherwise and warned Howard of the 'dangers of talking with the enemy'. Brown felt that dialogue directly with 'the enemy' was a sign of weakness on the part of SPACE. So SPACE remained strong of will, if weak of pocket-book right to the end.

Brown's iron-will pretty much ruled the direction of SPACE since the scrambling battles began. A persuasive, exceptionally bright negotiator, he found it not difficult to convince SPACE's elected leaders that his position was the correct position. Brown's skills as a persuader were never really taxed by an elected board of businessmen who thought seriously about the affairs of the association for perhaps 8 to 10 hours once every three or four months. By dividing the SPACE board up into segments (dealers, distributors, OEMs) and then further gerrymandering the day to day functions of SPACE by creating an executive committee, ultimate control of what SPACE did and when always wound its way back to the law offices of Brown and Finn. Taylor Howard was the perfect **spokesman** for Brown; a man of 'letters' and 'credentials'; a much self-improved public speaker, and a quick learner of the Brown book of tactics and skills. It was, for Brown and Finn, a very comfortable arrangement. Until the money ran out.

None of this is by way of criticism of Brown nor the SPACE board. Hindsight allows us to look back at our mistakes as an industry but it may not suggest any sound alternatives we could have elected along the way as we made those mistakes. Brown and Brown alone kept the industry legal for far longer than perhaps we should have been legal.

With Brown no longer General Counsel for SPACE, one might expect that SPACE would be out shopping for a replacement General Counsel. Not quite. And that brings us to the 'new Brown' and the 'new SPACE'.

**SPACE has in recent months severely reduced its overhead.** The office staff was cut in half, and smaller quarters were found. General manager Chuck Hewitt promises SPACE is no longer losing money month to month. That's heartening since SPACE was in the hole by several hundred thousand dollars as recently as May.

Brown has left SPACE by rejuvenating the **Satellite TV Viewing Rights Coalition**. Oldtimers will be more familiar with a different name for the group; it used to be called '**SPACE Superfund**'. The Superfund program has been with us since the summer of 1983. It was created so that the larger dollar volume SPACE supporters could put more money into SPACE programs each month without actually putting money into SPACE proper. There was a concern at the time that if every SPACE Pioneer member firm put in say \$300 a month but a dozen or so put in perhaps \$2,500 a month, that those who put in \$300 would have too much 'say' about how the extra money was being spent. So 'Superfund' was created and it had its **own meetings** and its **own board** of directors and its **own bank account** which Brown and Finn administered separate from SPACE proper. Unlike SPACE, Superfund never sent out press releases, never made public its finances and never took a very visible position. On more than one occasion between 1983 and 1986, when SPACE was in trouble financially, Superfund 'loaned' money to SPACE to bail SPACE out.

The original premise of Superfund was to raise funds to bring an anti-trust lawsuit against programmers such as HBO. Brown argued, persuasively, that an anti-trust lawsuit was necessary to keep the HBOs of the world 'honest' but that if SPACE did this, the activities of the suit would by nature have to be 'too public'. Superfund could hold its secret, unposted meetings, decide how and when to spend their funds (primarily with Brown and Finn) and stay out of the public limelight. Not very much has been written or reported about Superfund in the past because not very much has been known or traceable concerning the fund. At least some of the participants wanted it that way.

Now, in a memo which Brown has sent to approximately 40 surviving members of the industry, he outlines why a reactivation of the Superfund, under a slightly different name, is mandatory. Brown writes:

**"The business decline of the last 6 months will not be stopped unless dramatic legislative or judicial results are obtained to resolve industry problems. In fact, there are new matters that can make things even worse; decisive action now can make your company survive."**

Here, the industry's surviving suppliers are being



warned that in Brown's view the industry has not yet 'bottomed out' and things could in fact 'get worse'. They might not get better, **ever**, unless decisive steps are taken.

For 1987, Brown goes to the crystal ball and here is what he sees:

**"(1) Unavailability to home dish owners of CBS, and possibly other network feeds, including the super-stations;**

**(2) CATV-backed advertising campaigns spotlighting pending legislation that would make dish owners (users) liable to fines of up to \$10,000 and a year in jail for unauthorized interception of private transmissions, including some sent as audio sub-carriers or in TV vertical (blanking) interval, network backhaul feeds and video conferences;**

**(3) CATVs and programmers in full control of scrambled signal distribution to dish owners outside of CATV franchised areas and therefore making it impossible for dish sellers to assure all customers that services they want will be available to them."**

There are two major concerns here. Number one, if legislation is adopted or close to adoption that creates fines (of \$500 and six months in jail) for tuning in 'unauthorized feeds' (such legislation, HR3378, is already nearing floor consideration), the cable industry is handed one of the most potent PR weapons of all time. One can picture the advertisements in local newspapers and TV Guides that headline **"TUNE IN THIS SATELLITE TV PROGRAM - and spend six months in jail!"**. The text of such an advertisement

would list ALL of the programming channels which are 'off limits' and 'warn' (as a public service, of course) satellite viewers to 'be careful' what they tune in. If you are a retailer of TVRO, you can see the ramifications of this type of advertising campaign in your marketplace. And you think business is slow now!

The second concern is that if CATV companies and programmers are the sole source for programming, and they have their own business rules, they can easily deny access to HBO (for example) to dish owners who live in town where cable service (with HBO) is available via cable. Outright denial takes many forms; pricing the service so high it is not attractive is a form of denial.

Brown senses a total collapse in the industry. Perhaps as soon as the first quarter of 1987. He sees inventories piling up, price erosion getting worse than it already is, and then he senses the consumers feeling the total collapse of the industry and their refusal to buy product **at any price**. And Brown writes **"And the industry dies while the cable industry breathes a sigh of relief as their only potential competitive threat disappears"**.

The Brown memo to the 40 or so suppliers then paints an alternative to 'total collapse of the industry'. It urges the formation of a special group, outside of and separate from SPACE, with only one goal in mind; the fighting of legal battles and legislative battles to bring the odds back around nearer to parity for TVRO. STVRC would be funded, outside of SPACE. Superfund would become STVRC and the present seven Superfund members could fold their present 'kitty' of perhaps \$50,000 into STVRC.

Brown sees a minimum operational budget for STVRC of \$49,000 per month. He says it might go as high as \$104,000 per month. He points out, however, that the adversaries to home TVRO (cable, programmers, et al) are presently spending \$150,000 a month to bury home TVRO. Out of the \$49,000 plus per month, he suggests that Brown and Finn, his law firm, be retained at a flat rate of \$30,000 per month plus he estimates around \$5,000 per month in operating expenses incidental to the operation. He asks voluntary support from manufacturers in the range of \$1,500 per month minimum and \$2,500 per month if the firm wants to serve on the new STVRC board of directors. He also hopes for contributions from non-members. And, he warns that the fees might be renegotiated at the end of December, after an assessment of how progress has moved STVRC efforts ahead.

The Brown STVRC 'plan', now implemented and brought to a head by his 'surprise' resignation from the SPACE General Counsel position in June, creates a new image possibility for SPACE itself.

**Chuck Hewitt**, Executive VP, sees SPACE as becoming 'more mainstream' and he admits that SPACE is encouraging liaison with various organizations, 'including programmers'. It should not surprise you to learn that SPACE will probably have accepted one or more programmers (ie. HBO, etc.) as 'members in SPACE' before the Nashville convention September 1 to 3.

With Brown still as General Counsel of SPACE, and with SPACE taking an activist and adversarial role in the legislative and judicial battles to save TVRO, there was little chance that organizations such as HBO would either join SPACE or even talk with SPACE.

## SATELLITE TELEVISION INDUS

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Satvision  
Tulsa, Show Guide  
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#### CURRENT ASSETS

#### LIABILITIES AND F

#### LIABILITIES:

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Hewitt freely admits that SPACE needs funds, badly, to stay alive and there are potential dollars out there from the programmers.

To some, this may look like 'SPACE has sold out to the programmers', and if indeed in the fall elections an HBO or Turner or Showtime representative pops up as an 'elected member of the board', few would be surprised.

It also may appear to some that by pulling out of SPACE's direct activities and reformatting the Superfund group, Brown has simply created another, new trade organization with a far more confining list of activities and goals. It may well be that Brown, never really interested in the nuts and bolts problems of dealers and manufacturers, simply felt uncomfortable having to fit his legal and legislative battles around the much broader needs of a growing SPACE membership.

Hewitt is likely to paint the new programmer interest in SPACE as a strong, healthy sign for the industry. He can be expected to tell us that it is far better to have these programmers inside, working with us than outside working against us.

The division between SPACE and the newly revitalized STVRC must be sharp and obvious if all of this is to work. HBO and others will quickly see through a plan that was created to provide the illusion that Brown is gone and that they can now sit down and begin dialogues with those remaining at SPACE. Some of those remaining, such as Taylor Howard, are well advised to reassess their own rhetorical positions in light of a newly-borne SPACE. HBO will be quick to pick up on anything that sounds like Rick Brown is continuing to pull the strings on the back of the ventriloquist doll.

The new SPACE board and the new SPACE officers will have a particularly difficult challenge. Some may find the 'clout' of SPACE so diminished with SPACE essentially out of the legal business that they are uncomfortable serving on a board that is not involved in litigation. They would be well advised to opt for a seat on the STVRC board.

**The new SPACE will have to decide** what its priorities are, how those priorities are to be tackled. **Marketing**, the art of making the mis-informed consumers believe that owning a TVRO is not a passport to the local pokey, is a good starting position. Dealer training, much talked about but largely abandoned in recent months is another sizeable challenge.

Dealers and distributors and OEMs traveling to Nashville over the forthcoming Labor Day weekend will have an opportunity to witness, perhaps even participate in, this great changing of the TVRO guard. This is that 'holy revolution' which many have secretly hoped, prayed and worked for over several years. It has happened largely because the market has changed and those who are or have been in a position to extract money from our marketplace are now repositioning themselves for one more (perhaps last) shot at the golden ring and the money still left to be spent. SPACE is being left behind to fend for itself in a sea filled with cable sharks.

#### ELECTRIFYING News

Some two months back when Congressman Wirth

conducted his second set of Congressional hearings dealing with the satellite scrambling situation, a rabbit jumped out of the hat to proclaim 'all of your problems are solved'. That rabbit was the National Rural Electric Cooperative Association or NRECA.

**NRECA** is to rural electricity what AT&T is to the telephone system. They have spread their wire and poles over an estimated 75% of the US landmass where they serve an estimated 11% of the US citizens with electricity. There is an NRECA for the same reasons there is a SPACE or the same reason there is an NRA. It represents its individual, independent, member companies.

**Rural Electric Cooperatives** started in the 30's when it became apparent that the American free enterprise system was not going to respond to the needs of rural Americans who were still doing without electrical power some 30 years or so after electricity arrived in the cities. Electric companies, like cable companies after them, were reluctant to spread their wires into farm regions when it took several miles of wire to reach a farm. It was simply a question of economics; the same miles of wire in town would pass several dozen or several hundred customers. A 'return' on the capital cost of that several miles of wire was far faster and far more sure in town than it was in the farm areas.

Rural electric cooperatives got several important economic boosts when the federal government arranged to provide them with low cost electricity and low cost loans to build their plants. The TVA or Tennessee Valley Authority is but one example of a government project created largely to make electrification of farms possible 40 years or so ago.

Well, the rural farms are largely now wired for electricity and for more than a decade now the rural electric co-ops have been looking around for ways to further improve the quality of life for farmers. Once, ten years ago, they thought that cable television for rural areas might be the answer and in Wisconsin and Minnesota and other states, the rural electric people experimented with building rural cable television systems. It didn't work well enough to be a business so they wisely abandoned the project. Still, farmers were getting second class (if indeed any class) television service and the need persisted.

Satellites will work for farmers, as we all know. One way for the NRECA to help farmers get good television would be for the NRECA to build and launch its own satellite dedicated to the use of its member cooperatives and to serving the farmers with television which these member cooperatives now serve with electricity. The concept is not that absurd; if they serve 11% of the homes in America with electricity, why shouldn't they also serve the same homes with their television needs? That would amount to nearly 10,000,000 homes.

But getting to owning your own satellite with perhaps 16 or 24 channels of TV service from not knowing how to properly spell 'satellite' is a lengthy process. There needed to be at least one intermediate step. Why not test the waters by acting as a 'sales agent' for satellite systems and satellite programmers? The reasoning goes like this.

If you have 10,000,000 US homes as customers and you provide them with one essential of life (electricity), you have your foot already in the door. Now, some of





these homes already own a satellite TV system; we'll say 500,000 or 5% of your total market is already using the product you wish to be associated with. You already send to these 500,000 homes a statement each month and that statement has room on it to add another line that says something like "Satellite TV Service.... \$10". If you could bill these 500,000 homes \$10.00 a month for satellite TV, and if you could purchase the rights to that satellite TV for perhaps \$6 per month, you would have a new revenue source of \$4 times 500,000 or \$2,000,000 per month to work with. Your total investment would be the one time sales or marketing cost to reach those 500,000 homes with the message that you were now their local, on-call 'Satellite TV Program Agent'. There would be no new wires to run, no real equipment to stock, and a minimal learning curve for your own people.

There is of course one small impediment to this plan; **the scrambled nature** of the satellite programming. Each of those 500,000 existing consumers of yours will need to acquire and have installed a (Videocipher) descrambler before they will be able to pay you that \$10 a month. Hummm.

Some firms, such as Macys and Sears, know a great deal about merchandising. They have prospered in a competitive environment where their day to day and annual sales results are directly affected by their own 'marketing skills'. Other firms, such as AT&T (until the FCC ordered breakup of the operating companies from AT&T) had only a fleeting understanding of marketing because they were the only game in town and you develop a different corporate perspective of marketing when you are in the only game in town. Unfortunately for the rural electric cooperatives, they have been 'the only game in town... for electricity' from day one. Their marketing skills are virtually zero and their corporate mentality is that a regulated monopoly is essentially immune from competition. They are answerable first to their board of directors, next to their association of fellow co-ops and third and last to their consumer customers.

At the June hearings before Wirth, Senator Gore noted **"Cable programmers have maintained that distribution of their signals must be done by a company that is financially stable, well established and permanent, and can guarantee large numbers of**

**customers. That, not coincidentally, is the definition of a cable television franchisee"**.

Indeed. That is also a reasonable definition of a rural electric co-op.

Listening to the reaction of those cable people appearing at the same hearing, and reading their statements afterwards I gained the distinct impression that cable people were caught off-guard by this development and basically were looking for ways to wiggle off the hook. As we have all suspected for quite some time, cable people don't want **anyone but cable people** distributing cable programming. No matter **who** they are.

Up until the NRECA's move on becoming a cable program packager, it had been easy for cable to point at TVRO people as 'unstable business people without the resources to act as suitable program distributors'. Indeed, our own actions in the past six to eight months prove our lack of business stability. But the NRECA was a business of another color. Bigger than cable, in terms of invested dollars and far older and more mature than cable, the NRECA's members could indeed handle the task. It would be interesting to watch one monopoly dealing with another monopoly. **I felt cable would win this one, none the less.**

The NRECA announcement at the June hearings was no less than stunning, and no less than premature. NRECA was not ready; their homework was incomplete, and many of the cable programming firms who's programs they intended to distribute were hearing that fact 'live' from the House televised proceedings. That's not a very sound way to tell somebody that you are going to come over and do business with them.

Not too surprisingly, there has not been very much announced progress in the NRECA plan since the June hearings. One NRECA spokeswoman told the cable trade press they hoped to be 'operational' by July 1st. I wondered which year she meant since July 1, 1986 was totally out of the question. It told me, however, that the people at NRECA were really negligent in doing their homework in this area. I wondered if perhaps they had been suckered into making their appearance in Washington and making their badly premature announcement by some politician who desperately wanted to get Washington off the hook on the scrambling issue.

There was some evidence to back up that question. Numerous Congressmen seemed to react to the NRECA announcement by throwing their pencils on their desks, raising their hands in the air in an air of unrepressed joy and smilingly mouthing the phrase "That's it; that solves THE problem!" Worse than their saying that and reacting as if a great burden had been removed from their shoulders, they probably believed it as well.

Well, I'd like to **believe** that the scrambling access problem IS solved. But I find too many indications that not only is it not solved but it is unlikely to be solved by NRECA. The last person I saw ride in at the last moment on a white horse and turn around a desperate situation was Hopalong Cassidy. Hoppy died several years ago and his horse preceded him. I am afraid the NRECA plan will travel the same route as Hoppy and his horse.

I would, however, like to urge the NRECA to try





again.

Their plan is headed for a failure mode because they are trying to do business with cable people. You can't do business with people who don't want to do business with you. The NRECA naively thought they could buy wholesale and sell for below retail in the cable shopping center. Nobody does that but other cable people; it is one of the most private discount clubs in the world today. The NRECA could make their goal however by starting over, from the ground.

**First, get your own satellite.** That's not tough in today's market. It matters only slightly whether it be a C or Ku band bird. The Japanese don't care which band they ship over here in the receiver cases; both bands are readily available in Tokyo warehouses.

**Second, get you own programming.** Anything greater than 12 channels will do for a start and 15 would make you look like real fine folks to the farmers. If that sounds difficult, I'll help you out by starting a list for you. Here are some independent, non-cable programmers already on satellite who will probably 'go dark' if they don't get some help soon:

- 1) Caribbean Satellite Network (W5, TR16; movies 24 hours a day plus some additional programming).
- 2) Liberty Broadcasting Network/LBN (F4, TR7; religious programming 24 hours per day)
- 3) Hit Video USA (F4, TR18 which has MTV programming without the gore and guts)
- 4) CMTV (Country Music Television, what Nashville should be without all of the shameful non-music shows from T3, TR1)
- 5) HTN/Home Theater Network (F3R, TR16. They manage to run a clean movie channel which the NRECA would not be ashamed to air)
- 6) CBN/Christian Broadcasting Network (G1, TR11. Dr. Pat Robertson has his you know what in a wringer by allowing himself to get caught in the cable washing machine. He doesn't want to scramble, but he needs his audiences via cable to stay alive. Give him another way to reach an audience and he will bless NRECA forever.)
- 7) C-SPAN (TR13 on G1. Even though they will never scramble, the service packaged with the rest of the rural area programming would be important and make big points in Washington.)
- 8) NBC. There is no law that keeps you from uplinking a

suitable NBC affiliate by taking it off the air and putting it on satellite.

9) CBS. Same story as NBC.

10) ABC. Same story as NBC.

11) PBS. Same story as NBC.

12) Indie. There are plenty of good indies in the country that do a better job than Turner with sports and movies. Just select a good one and add it to the mix. The new copyright law will allow you to do this.

That's 12 but why stop there if you own a satellite?

13) Canada. The Canadian CANCOM pay TV service rips off US programs from Detroit, uplinks them on ANIK-D in a scrambled mode and sells them to Canadians. A turn about is only fair. Let's rip off a Toronto station and a Vancouver station and do the same thing for American farmers. Which takes us to 13 and 14.

An intelligent mix of programming for farmers would balance east and west coast time zones, recognize that farmers generally go to bed early and get up early. Costs?

**Holiday Inn** is now operating a four channel Ku band service on GStar 1. They are into 700 motels, or perhaps 100,000 rooms. **They are making money with it.** A properly structured NRECA satellite service could well be into 5,000,000 US homes within five years. You would make so much money that you could probably afford to reduce your electrical rates.

**I'm not afraid** of the NRECA move on TVRO. Some are. **I am afraid** that they are so naive that they will try out only the mainstream routes and never be bold enough to do what has to be done to make multiple channel television really happen for rural America.

I hope that as the people from NRECA stumble around the blind alleyways created for them by the cable monolith that they don't become discouraged and give up. There is plenty of real potential and plenty of ways to get there without following down the roadways built by cable operators. Today's satellite highways are private tollways. Settlers in this country were faced with the same problem when they wanted to cross the Appalachian mountains to the west to settle. Enterprising people built roads and charged a toll to use them. That kept settler traffic at a minimum. Then somebody figured out that you could get there just as well by traveling down 'public' rivers. That opened up the area west of the Appalachian chain and America's growth continued. Cable operators own the first set of toll roads to the sky; there are other roads available if we will simply use them.

### THE Trip

Over the next several months we will be featuring another in my infamous series of travelogues (dedicated, I might add, to Lloyd Covens who seems to appreciate them more than most). Briefly, Patti and I left Virginia on May 9th and returned there on June 16th. In between those two dates we visited Hong Kong, Canton and other points in China, Singapore, a sizable chunk of Australia, the majority of New Zealand and then for dessert we stopped into Tahiti for four days. For forty days and nights we lived out of two canvass travel bags which grew heavier with each stop, piling up roll after roll of 35mm film and roll after roll of VHS videotape shot in our Camcorder. I checked in with Carol at our CSD office each week and sent off mag-



azine copy generated on my 3 pound Brother portable typewriter from such stops as Singapore and Sydney.

There may be a better way to spend 40 days in one's lifetime but I cannot recall anything I have done in mine that comes close to the experience. And that includes our infamous trip to Sri Lanka to visit Arthur C. Clarke back in 1983 with 22 'close friends'.

The impetus for 'the trip' had many origins. First of all, there was the 'timing factor'. I knew we would be resuming the roll of publisher for CSD on July 16th. I also knew that as soon as that happened, it would be virtually impossible to 'get away' for 40 days and 40 nights; perhaps ever again. The 40 day part just sort of happened; Patti and I spent weeks studying and deciding where we wished to visit, how long we wanted in each place and then when we were done with a master-plan, simply totaled up the number of days it would take.

"You know that three week trip?" I commented to Patti; "well, it is now a 40 day trip!". We made an attempt to cut it back and then remembered that there was no pressing reasons to cut it back other than the expenses involved. "It will probably never cost less to do than now" she offered. The logic was inescapable.

Another reason for 'the trip' was my concern that with the North American TVRO industry withering, it would be a good time to explore other regions of the world where virgin markets for TVRO systems and hardware might develop. Our itinerary was carefully chosen with that research project in mind. My first inclination was to search the CSD subscriber rolls for subscribers in Hong Kong, Singapore, and so on and make arrangements to visit those folks as we went along. After careful consideration, I discarded that option in favor of traveling 'incognito' and simply doing our own searching out of information sources at each stop. Now that I am back, it appears that was the right decision since we have a much broader view to relate of satellite prospects in the regions we visited than we would have brought back had we merely interviewed those pioneers in the business where we stopped.

What we found was incredible opportunity for satellite systems, in some very surprising places. At the same time, we found only limited prospect for traditional systems in such countries as Australia (which now has its own domestic satellite system, of course). The sleeper in all that we saw was New Zealand where Patti nearly jumped through the windshield when she spotted the first (of ultimately many) 7 meter dishes propped up on the roof of a motel. Alongside the facility was a professional sign proudly proclaiming "Satellite TV". I did a hurried U-Turn in our rented Toyota and we bumped to a stop. Before I could shut the car down she was already outside the car snapping off a series of 35mm photos with the speed of someone who feared the dish and motel might evaporate before our eyes if she didn't hurry up. Minutes later while Patti finished a roll of film from around the motel I was standing in the small (7 unit) motel office asking really dumb questions ("Paradon me, could I look at your television reception in a unit???"). My Camcorder was rolling through it all and for the next 30 minutes I was overloaded with information as the lady who managed the motel told me everything I ever wanted to know about her dish (they were

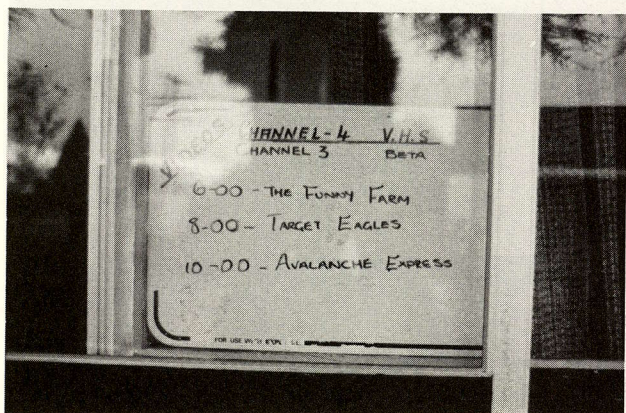


**WATERBEDS, indoor saunas, 'Video', swimming pool, 'thermal pool', satellite TV, private kitchens and a bottle of fresh milk each day; all for typically \$30 to \$35 (US) per night. And no vacancy!**

one of the very first in New Zealand to have one), the reception (AFRTS only now, from the USA; previously they also had Australian ABC as well) and how having the satellite dish had impacted their occupancy rate (over 90% since the dish; about 50% prior). As the days wore on in New Zealand and Patti and I learned how to spot motels with dishes in town after town, the same story repeated itself over and over. Each night we tried to pick a motel where AFRTS (CNN) was available and in each case we found the motels 'sold out' before we got there. Our first in a series of reports on the satellite business potential in the Pacific starts here this month and because of the potential in New Zealand, we begin our series with a look at what we found there.

One of the factors that was really driven home to me was that for satellite systems to 'sell' in the Pacific, the seller has to approach his dish system as merely a (key) part of an overall video processing package. You will not sell dishes and receivers alone. You must sell end-to-end service, starting with the feed and ending with the final picture and sound on the television receiver(s). In New Zealand, for example, the entire market seems to be the private preserve of a firm calling itself 'Satellite Television Systems' or 'Sat-Tel' for short. When they began some 30 months ago, they set out first to see if they could receive **any type** of satellite reception; **from anyplace**. With only two TV channels of service nationally in New Zealand, there was an apparent need for additional services. There was also that 'technical challenge'; could it be done? They had scrounged some books and magazine articles from the USA (they knew who I was the minute I mentioned my name; 'The Coop?'; they asked in some disbelief) and then applying basic antenna physics, gone to work. Once they had conquered the basic reception challenge, they faced new technical challenges; the Intelsat reception was weak (a seven or eight meter antenna was the answer) and while the Australian service then available on C band was in PAL/625 in format (like their own TV service) the US (AFRTS) service was in glorious NTSC (525 line). They quickly determined that if they were going to make a business out of reception they had to devise some low cost means to convert the NTSC/525 line





**'MARQUEE' in motel office window listed the evening 'video movies' at this motel. Two separate channels at this motel (3 and 4) which for reasons we never understood showed the same movie at the same times but ran one channel (3) on Beta format and the other (4) on VHS format.**

reception to PAL/625 line. We explain how they do this in our feature report this month.

As important as the pioneering work has been to date in places such as New Zealand and New Guinea, and to a lesser extent, in Australia, there remains a sizeable uncertainty for the future of satellite system sales in the Pacific. When Australia cranked up their domestic (AUSSAT) bird this past fall, all Australian service on 4 GHz went away. This left AFRTS plus a handful of specialized 'duplexed' feeds (two video signals interlaced on one transponder) at C band. As we found in New Zealand, commercial sale of C band systems dropped in half when this happened since many of the New Zealand systems were being bought for the opportunity to view the Australian sporting events carried on Australia's domestic program channels. Sat-Tel has completed engineering to prove the feasibility of receiving Australian Ku band signals in New Zealand (see feature report) but sizeable technical problems remain.

There was another element I noticed in New Zealand during our eight day visit; virtually every motel and hotel of the country's estimated 5,000 motel/hotel/guest houses features something called 'In Room Video'. The first motel marquee I saw proclaiming 'Video Here' puzzled me. It usually appeared right after the words 'Colour Television'. What in the world were 'In Room Videos'? I searched in vain for a VCR in the first motel we stayed with in Christchurch.

'In Room Videos' are sort of a poor man's HBO. Each motel, of the thousands of motels, has installed one or more VCR machines. With two national television channels (TV1, TV2) universally available, and most TV sets sold in New Zealand programmed to receive four or six or eight channels, that leaves several unused channels on the TV sets. The VCRs are connected to small modulators and all of the facilities employ little MATV systems with a common antenna and cable distribution. The VCR modulated channel or channels are simply mixed in with the local off-air channels, and 'bingo' you have 'In Room Videos' throughout the establishment.

"Where do you get these movies?" I asked motel operator after operator. The answer was almost always the same; a local video tape shop had a contract with them. Usually, one videoshop (every town, no matter how small, has a videoshop; a subject we look at in our feature report) has been aggressive and tied up the video business for the town or region. Most of the motels featured small hand painted 'Marquees' in the window listing the featured movies as well as the start times for the day. The incredible part follows:

The average motel in New Zealand has 12 rooms. This is a true 'Mom and Pop' industry. Yet these small businesses have found it important, even mandatory they provide one (or even two) channels of 'In Room Videos' to attract clients.

"How important are the movies?" we asked. I was assured that they are VERY important. "We have people who first ask us 'What's on the video tonight' before they ask the room rate or other questions" I was told repeatedly, Tourism is the growth industry in New Zealand; new motels are springing up all over and there is a consolidation move now to create 'chains' out of individually owned motel businesses.

American tourism is up some 40% this year; Canadian tourists up more than 25%. A first class motel room in New Zealand, with a kitchen, private sauna, separate sitting/living room, free laundry facilities, often with a game room and fresh fruit in the room (plus of course 'Videos') typically runs around \$60. That's new Zealand dollars; when Patti and I were there we got \$1.80 New Zealand for every American dollar so the 'real cost' to an American Tourist comes out to be about \$36 a night. Oh yes, when you check in they hand you a fresh container of (New Zealand) milk!

The advantage of the American dollar aside, the point of interest here is the very high interest in 'Videos'. That interest is shared with hotels in Australia although Australia seems to be lagging behind New Zealand in this area at the moment (we stayed at several hotels in Australia with in-house movies but saw far more with no such services, yet). There could be several reasons for this. The movies we saw available on motel-marquees in New Zealand were reasonably modern, if not exactly current. Many were of Australian manufacture, or from the UK. Movies we saw in Australian hotels were far older, almost 'public domain' (ie. past the point of paying for copyright and commercial use). Jimmy Stewart as 'Glenn Miller' is hardly current fare! A New Zealand motel operator offered to me **"The authorities have been pretty lax in this area so far; we just pick up movies as we wish without worrying about copyright or anything such as that. I believe the day will come when we will only be able to select movies from authorized and appointed distributors, and we will have to pay special copyright fees for movies we show in our motels"**. A major hotel chain in Australia we talked with carries 'Videos' in all of their large hotels in that country, I was told "We only obtain movies through authorized distributors who have cleared the film for hotel showing". From New Zealand's typical motel fare of three back to back per night (average film age; 3 years) to Australia's one film per night, back to back to itself with an average age of 21 years, the impact of 'authorized distribution' is obvious.

There are other reasons why the motel video boom is



so evident in New Zealand. There is very heavy 'film censorship' in practice there; movies are approved by a film review board before they go on sale in local video stores or are shown in theatres. While Patti and I were there, a rhubarb developed over a particular film which had been approved for adult viewing in one **edited** form and then distributed through video houses in another form. The approved form ran 91 minutes while the unapproved version ran 107 minutes. The 16 minutes 'missing' from the approved version mostly displayed close 'private and personal contact' according to the restrained press reports. The film's importing distributor was in hot water for submitting a 'vanilla version' and then selling a chocolate version. He was about to lose his license to bring films into New Zealand; ever again.

We saw the same film on display in a motel; the longer version. Word of mouth was promoting the film in the area and the motel operator was doing extra well because he had booked that particular movie into his motel. New Zealand is still quite cautious about what it allows to be shown to or seen by its' population. The two-channel government authorized national television monopoly has a firm policy that bans 'Music Videos' from the air. The nearest TVNZ comes to 'music videos' on the air is the once-weekly showing of 'Solid Gold'. Bootleg copies of Music Videos are available, often sloppily edited into one or two hour 'features'. You can find 'motels' that screen these as well.

The continuity thread that runs through all of this is the very high interest in recent, 'high action', movies and features. On the surface, New Zealand seems to take its 'cultural cues' from London while Australia seems more closely affected by the 'American Connection'. There are interesting cultural differences beyond the 16 million versus 3 million population comparison. New Zealand is said to have a 'pipeline to London'; a stone dropped in the Thames River raises ripples an appropriate time later at Thames, New Zealand. An example: one of the major holidays in the English-English countries each year is the birthday of 'the' Queen. New Zealand, appropriately, celebrates that event over the last weekend in May. So does England, since that is indeed



**NEW ZEALAND** scenic sights are breath taking and often totally unique to their country. Here, Coop completes videotaping of 'Pancake Rocks' along western coast of South Island.



**THE 'latest' entertainment fare has not yet reached New Zealand. In the local theater at Westport, a small South Island town, Walt Disney was just arriving!**

when the Queen has her birthday. Australia, not wishing to be disrespectful, also celebrates the birthday (this means a national holiday; everything closes down). However, the Aussies do it **a week later**.

New Zealanders are known as "Kiwis". They like the term and the same word also names their national bird and a fruit which in the last ten years has become a major export commodity. To an American traveler in both countries, there are but subtle differences between an Aussie and a Kiwi. Australians generally treat Kiwis and their country with a perceptible amount of disdain.

"**Why are you going to New Zealand?**" the young Aussie crane operator demanded of me. "**There is nobody left there;** they are all here! The whole country is empty; they have all left, come to Australia because life is so much better here. Why when your plane lands, there won't be anybody there to hook up your plane departure ramp. You'll have to hop out to the ground and push it up to the plane yourself!"

New Zealand, comparable in size to California but with 1/6th the population, is argueably the most endowed and self sufficient country in the world today. Stuck off by themselves in the southern Pacific, it is almost as if the world was long, thin and flat rather than round. And New Zealand was located at the very end of a ribbon of 'earth'. You do get the feeling when you arrive that you have traveled to the very 'ends of the earth'. There are small efforts to connect 'their end' to the other end now. Until very recently, planes flew to and from New Zealand only from Australia, Tahiti, the US (via Hawaii) and a handful of nearby Pacific islands. An air traveler never flew to New Zealand **to change planes** to go someplace else because it was, indeed, the 'end of the line'. However, there are now flights each week via Auckland to Buenos Aires, Argentina; direct and over the **South** pole. Our 747 jumbo jet from Auckland to Sydney had more than 100 passengers who were traveling to Australia, via New Zealand, from Argentina. Very few were staying in New Zealand.

New Zealand's economy turns on agriculture and natural resources. No place else in the world had I seen so many forests; timbering was everywhere. They 'harvest' lumber by denuding entire mountain sides and





**NEW Zealand exports something like 56,000,000 tons of dairy products per year, largely to Europe. There are just over 6 pounds of cheese in this picture, and it cost us under \$2.00 New Zealand (\$1.00). Yes, we 'noticed' one variety was called 'Port Cooper'!**

then after harvest the ground is immediately replanted in new, baby trees. It is a strange and awesome sight to see thousands of acres filled with row after row of tiny pine trees; each row perfectly straight clear to the tip-top of the mountain. New Zealand has an estimated 70,000,000 sheep or 23 sheep for every person. After a few days of traveling, you develop a feeling that you, personally, have seen every 'damn one of them!' Sheepskins are turned into every imagineable product; some beyond imagination. I'm still at a loss to figure out who would wear a sheepskin lined 'Jock Strap' or nose warmer with elastic headband.

You can only buy milk in bottles in New Zealand. Everyday, 'milkmen' deliver bottles to doorsteps and pick up 'the empties'. In one rural area we saw a man delivering the mail **and** the milk along a daily route. His milk truck said "Queen's Mail" on the rear.

For the American tourist, New Zealand is a low priced fairy-tale land. While it is possible to find restaurants that will charge you as much as \$15 American for a meal, Patti and I averaged under \$4 each for dinners and ate more of the best quality food than at any other time in our lives. Patti, the bargain shopper that she is, found us the 'Hire' (as in rental) car deal of the century there. We had landed in Christchurch, in about the center of the 'South Island', from Melbourne. Our pre-scheduled plans had us staying two days there and then hopping a passenger train for the trip north to Wellington and Auckland on 'North Island'. We like trains.

Alas, to cross from 'south' to 'north', you take the Picton to Wellington Ferry; a three hour trip. There is only one ferry concern and the ferry boat captains had selected our week to go on strike. All trains, all cars, all transport trucks plying between south and north depended upon the ferry. A person could fly however.

We found Christchurch to be short on regional transportation and we wanted to see some surrounding towns and coastal areas. So we elected to rent a car to tour the Christchurch area. That turned out to be one of those fortunate decisions in life.

**"Are you sure you only want this car for two days?"**



**70,000,000 sheep in New Zealand and as the T shirts reported "We saw every one of them". Here, sheep being driven from one pasture to another block the roadway so we videotaped their passage while waiting for the herd to clear the road to allow us to pass.**

asked the Dollar-A-Day rental shop operator. "Why don't you drive all of the way to Auckland; that way you can see much more and you can help me out." We wondered how driving one of **his cars** across 75% of New Zealand was going to do anything but help out his bank account.

"That car, over there, came down on hire from Auckland. It needs to go back to Auckland. If you will agree to drive it back for me, I will make you an excellent deal". And so we drove away in a four door Toyota which we would keep for eight days as we wandered all over both the South and North Islands of New Zealand. Our 'cost', if you can call it cost, ended up being \$3.60 a day (American) plus we purchased our own petrol. We turned the car in at Auckland with exactly 2,000 more kilometers on it than when we started. In between kilometer 0 and kilometer 2,000, we discovered a New Zealand TVRO industry that is alive and well, and possibly enjoyed ourselves more than any two adults should be allowed to do.

In a nutshell, New Zealand is the 'travel bargain' of the year. Between the very favorable monetary exchange rate, the use of the English language (although many words are new to you), and the most beautiful scenery we have ever seen, it is the most relaxing place to visit we can recommend. We were repeatedly reminded that New Zealand is so far from Libya and other centers of terrorism and unrest that the traveler can drop his guard and simply revel in the land he has come to visit. Maybe the world really is flat, and New Zealand is at 'the end of the string'.

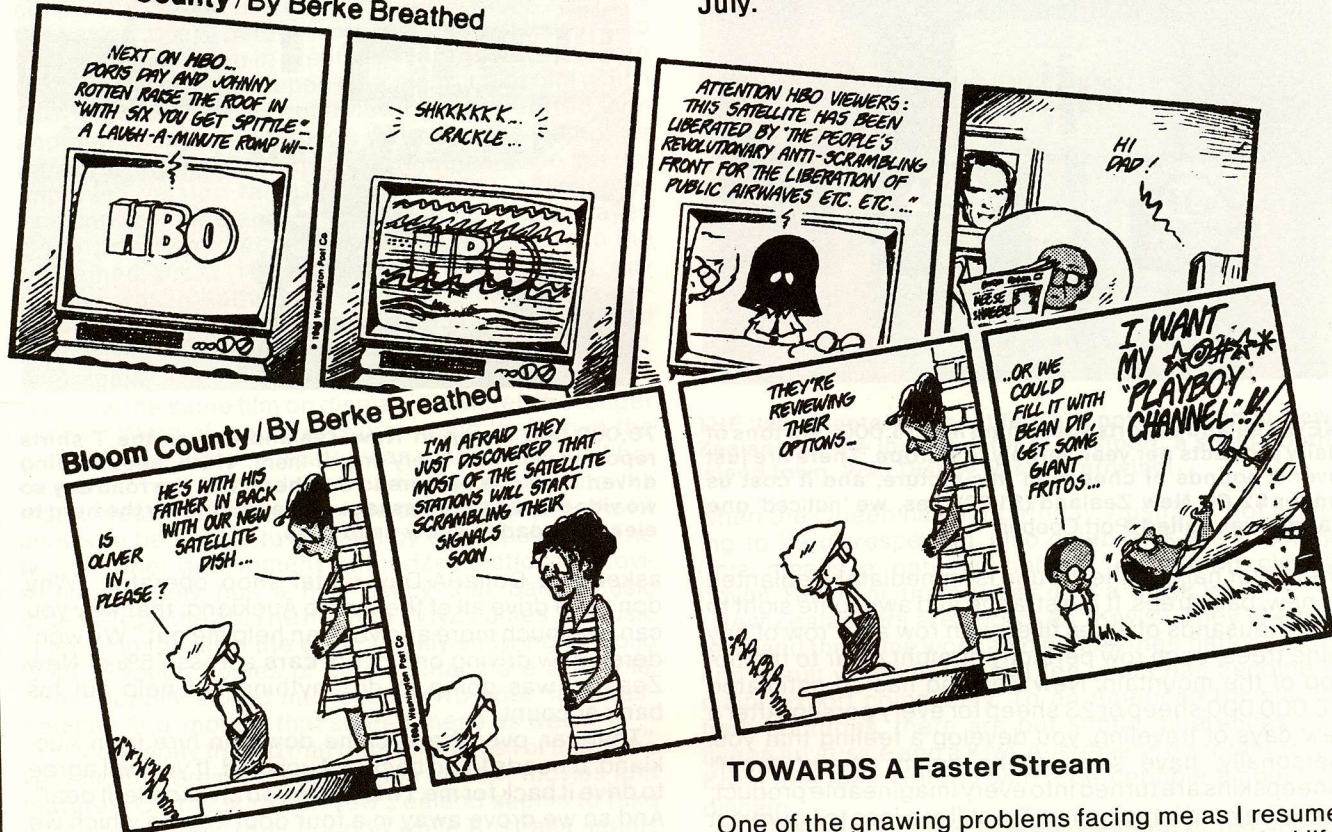
#### **THE BLOOM County 'Affair'**

A widely distributed newspaper cartoon called 'Bloom County' in mid July dealt the home dish industry another low blow. A series of six cartoons begun in most newspapers nationwide on July 14, attempted to make light of the scrambling of satellite signals. The message through the six-day run of the series was that people who have bought home dishes are now without television services such as HBO and Playboy. The cartoon series also suggested that anyone with a home VCR



## Bloom County / By Berke Breathed

MONTAGE of Bloom County strip series in mid-July.



## TOWARDS A Faster Stream

and a dish could 'take control of satellite broadcasting' and "Wreak havoc on the entire American communications network". The series ended with the FBI arresting a youthful member of the cartoon strip family. He was led away chanting "Take me away imperialist puppets of the great pay-TV satanistic corporate booger heads."

The six day run in Bloom County did our industry no good whatsoever. The creator, pen named Berke Breathed, was not available for 'comment' as to his choice of cartoon strip material.

The unfortunate part of such a series in hundreds of daily newspapers is that people who read the strip now have a badly distorted view of the legalities of scrambling, the incidence of jamming, and the attitude of most dish owners concerning scrambling. The strip clearly shows that the 'typical' dish owner is reacting in a violent, lawless manner over scrambling and suggests that the dish is now useful only as a huge bowl for chip dipping ("Or, we could fill it with bean dip and get some giant Fritos").

SPACE has of course 'complained' but the damage was done before SPACE or anyone else knew about the six day series. Whether the creator of the strip 'happened' into his subject matter on his own by being a keen observer of American trends, or because his brother-in-law works for HBO and somebody at Time/Life, Inc. dreamt up the series as another 'Captain Midnight' type of event to keep the battered home dish industry reeling is pure conjecture. It has not been a good summer in any event.

One of the gnawing problems facing me as I resume monthly publication of CSD is 'value'. CSD started life as a hybrid publication; a cross between a glossy 'news-letter' and a semi-slick magazine. While I was responsible for its production, we always sent it out via first class mail; airmail to be precise. We also maintained very tight time controls over the period of time between 'closing' and mailing; typically ten working days. Then I worked out my own schedule so I was able to report on late breaking events so they arrived in your shop or on your desk rapidly enough that the CSD information was always fresh and of maximum utility to you.

I instinctively felt this was mandatory if I was going to ask you to pay us \$60 or more for a year's subscription. Those free magazines could be months late and mailed by last class mail if they chose; most people didn't read them for timely news anyhow; if, indeed, they read them at all.

For the past 11 issues, the delivery has been slower and the mechanical requirements of integrating CSD with several other magazines at a busy, growing publication house has pushed the deadlines so we were working six weeks rather than ten days out in front. It **bothered me**.

A second problem was of greater concern; how do we get more attention directed at equipment pricing and equipment value? How do we create a 'forum' where the industry can stay up to date on the best equipment 'values' month after month? I remembered something popular in amateur radio some years ago; 'Green Sheets'. The original green sheets were nothing more than a typewritten and duplicated listing of ham radio



equipment offered for sale. It closed on a Thursday and was into the mails on a Monday, first class mail. The concept was good, now how would we implement a similar program for CSD?

First, we would treat it as a second publication; and bind it into the center of CSD at the last possible production moment. That would give it valuable extra days lead time. Next, we'd maintain the data file for it on computer and at the last possible moment each month Carol would zip off her computer file run and hand it to the printer for duplication and inclusion in CSD. So far, we had a mechanical method of getting the latest discount and fire sale pricing into your hands. Now, how would we get people to use the service?

Every CSD subscriber will receive a free 'Green Sheets' listing each year. Since the listings are (bargain) priced at \$25 each, that immediately translates to a \$25 'rebate' each year for each subscriber. Now, the \$60 CSD subscription was going to 'cost' \$35 a year. Then we would discount additional 'Green Sheet' listings, for subscribers. The discount structure would be such that if a subscriber used 5 such listings per year, his net cost for his CSD subscription just became 'zero'.

We sent out an announcement to all present subscribers on July 1st advising them of this program and asked those who wished to have 'free listings' in the first (August) issue to get the material back to us quickly. Some did as you see here this month.

Well, that would at least create an 'equipment forum' for subscribers. In theory, if you found a piece or two of equipment here each year which you could not find at a comparable price anyplace else, that 'purchase' and those 'savings' would go a long way towards justifying the annual CSD paid subscription price as well. But, was that enough?

I thought not. The 'Green Sheets' listing program was good for the small distributors and dealers, but what about the larger firms; those with overflowing warehouses? How could we help them out and not go broke trying?

First for them, we would offer them special payment discounts for their advertising. **We would even accept equipment in trade** for advertising space under some circumstances. We sent out an announcement to this affect on July 1st as well. My reasoning was that if a supplier could not find the 'cash' to advertise, but he **had to advertise** to move the excess inventory he had, we'd accept selected equipment as payment for advertising. Then we would turn around and list that equipment in the 'Green Sheets' pages. I didn't relish becoming an equipment 'broker' but somebody had to do it to get the wheels of commerce moving again.

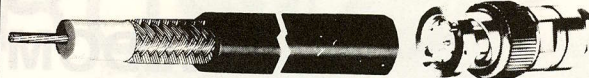
Was that enough? I thought not.

Next, we put together a special discounted-equipment program. This one is my favorite because I believe it can do more to clear out warehouses than any other. Here is how it works.

Within the 'Green Sheets' section of CSD each issue you will find display advertisements for brand new equipment. For a piece of equipment to show up here as a display ad, it has to meet several basic requirements:

1) The equipment must be offered in 'Green Sheets' for a price not less than **10% BELOW** any previously

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## BORESIGHT IS SELDOM BORING!

**EACH Thursday** night at 9 PM eastern on Spacenet, transponder 17 the home TVRO industry 'sounds off'. The video-journalist crew at **Boresight News** brings you the latest news and happenings in the TVRO industry in a fast-paced, provocative, usually informative and often entertaining format.

**BORESIGHT** will shortly be celebrating its second anniversary and beginning its third year of news reporting to and for the TVRO industry. From the peak sale days of mid 1985 to the present slowdown in business, Boresight has been with you week in and week out providing information and guidance when and where you need it.

**BORESIGHT'S** fast paced 60 minute format features a weekly news report, two or more 'television magazine features', and often strong and usually controversial editorial comments from Boresight founder Shaun Kenny.

**BORESIGHT** brings you live coverage from industry trade shows, detailed reports on new equipment, legislation, and the ever changing status of scrambling. Boresight is good investigative television journalism by people who are a part of the daily world of TVRO. Join us each Thursday and become a part of the Boresight viewing audience, now numbering tens of thousands each week!

**BORESIGHT NEWS:**  
Thursdays, Spacenet I  
Transponder 17  
9 PM Eastern  
(201/562-0087)

published price for like-quantity purchase. For example, in this issue there is a display ad for AVCOM model PSA-35 spectrum analyzers. The national established price for this unit is \$1965 although if you purchase a large quantity of these units you could get as much as 10% discount. The advertised price, in Green Sheets in this example, is \$1466 or 25% below any previously offered single-unit-quantity discount.

2) The equipment must be offered for no less than 30 days in 'Green Sheets' **first** before it appears at a like or better price in any other publication or in any direct mail promotion from the supplier. You might wonder why we make that 'demand' or why a supplier would put all of his discounted merchandise eggs in our CSD basket. I'll explain shortly.

3) The supplier has the right to **limit quantities** (to any one buyer or the quantity being offered for sale at the discounted pricing) but he must so state in his display advertisement.

Now, if you are a dealer and you save \$499 on a PSA-35 analyzer because you were one of the 10 fortunate persons to respond to the advertisement in this month's Green Sheets, **and** you knew you saved this \$499 **ONLY** because you learned of this through your CSD subscription, chances are you would feel pretty good about that \$60 you paid for a year's worth of CSDs. The suppliers who use the Green Sheets display section advertising space will, we hope, develop similar feelings about CSD. Why? Because **their advertisements inside of the display section of Green Sheets are FREE!**

**That's right; we are not charging advertisers for display space in the Green Sheets section. I suspect it will be difficult to find a better 'advertising buy' than 'FREE SPACE'. I hope this helps clear out warehouses filled with excess inventory and gets the industry moving again. That is my intent here.**

**Someplace out there is an advertiser who just re-read the last paragraph sure that there is a mistake, or a 'funny catch' to the 'free display space in Green Sheets' offer. There are a couple of conditions; none of them are insurmountable.**

1) To qualify, the advertiser has to first purchase space in CSD; for each full page he buys, he receives 1/4 page in Green Sheets, free.

2) The free space is only in Green Sheets (i.e. not elsewhere in CSD), and **only** for the promotion of DISCOUNTED products. The equipment must be no less than 10% **BELOW** any previously offered price of a like quantity.

3) The supplier must agree by signing one of our agreement forms he will not make an identical or better offer anyplace else (in any other publication or by direct mail) for a minimum of 30 days after CSD comes out.

Now, between the Green Sheet 'classified' type of listings, and the display advertisements offering discounted merchandise at prices never before matched, we have some real potential to begin the long, possibly slow road to economic recovery. I will see that we are doing our part to create awareness that this industry does have the capacity to yank itself up by the bootstraps to recover. If I thought it was going to be a quick recovery or an easy road to recovery, I assure you we would not be going to such extraordinary measures to prop up our economic infrastructure.



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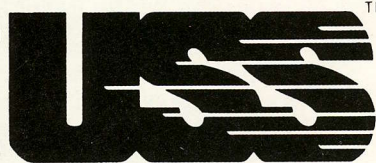
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